ORIGINAL

113 Staff Studies

Below the Bottom Line

The Use of Contingencies and Commitments by Commercial Banks

COMPLETED
264

Benjamin Wolkowitz
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Board of Governors of the Federal Reserve System

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BELOW THE BOTTOM LINE
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The staffs of the Board of Governors of the Federal Reserve System and of the Federal Reserve Banks undertake studies that cover a wide range of economic and financial subjects. From time to time the results of studies that are of general interest to the professions and to others are summarized in the Federal Reserve Bulletin.

The following paper, which was summarized in the Bulletin for January 1982, was prepared as a staff paper in 1979.

The analyses and conclusions set forth are those of the authors and do not necessarily indicate concurrence by other members of the research staffs, by the Board of Governors, or by the Federal Reserve Banks.

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OFF-BALANCE-SHEET ITEMS OF COMMERCIAL BANKS: AN OVERVIEW

Benjamin Wolkowitz

OFF-BALANCE-SHEET ITEMS OF COMMERCIAL BANKS: AN OVERVIEW

As a regular part of their activities, banks become involved in financial contracts for the acquisition of certain assets or liabilities by some future date under certain conditions. Many of these contracts create a situation under which, until the commitment is exercised, no asset is created. Under generally accepted accounting principles, the commitment itself is not considered an asset or a liability, and hence in and of itself it is not recognized on the face of the balance sheet.

These "off-balance-sheet items" are a diverse group of instruments with varying functions: loan commitments, lines of credit, standby and commercial letters of credit, bankers acceptances, financial futures, and forward transactions. Most are the result of the willingness of the banking industry to accommodate the special needs of its customers.

Bank involvement with these off-balance-sheet items has grown enormously in the past decade. This growth is encouraging in that it suggests that the banking industry is quick to respond to the needs of its customers and to adapt operations to changing markets. Generally, these instruments permit businesses to arrange their overall current and future financing more efficiently. On the other hand, this growth could be considered unsettling because it indicates that an expanding portion of bank activities cannot be monitored closely. Moreover, these instruments could pose a risk to the stability of individual banks.

Off-balance-sheet items also raise questions for monetary policy. Some of the largest categories of these instruments, which can serve as close substitutes for conventional forms of bank intermediation, are not subject to reserve requirements. To the extent that the amounts outstanding are large and volatile, the statistics on money supply on which the Federal Reserve depends in setting monetary policy may be less meaningful, and thus its control over the economy may be weakened.

The papers contained in this staff study explore these developments and some of the implications for the structure of the banking system and the conduct of monetary policy.

TYPES OF OFF-BALANCE-SHEET ITEMS

Perhaps the best known of the off-balance-sheet items is the loan commitment, in which the bank agrees to lend up to a certain amount at a particular rate (usually defined in relation to the prime rate) for some stipulated period. Like the other items considered here, loan commitments are not reflected on the balance sheet per se until the commitment is taken up, although they may be listed in memoranda or footnotes to the balance sheet.

Standby and commercial letters of credit accommodate other needs of banks' customers. When it gives a standby letter of credit, the bank in effect agrees to insure its customer's performance of a contract. A common example concerns construction projects: the company posts a guarantee in the form of a standby letter of credit that assures compensation to the party commissioning the project if the company fails to perform. Such performance contracts have been used for a wide variety of purposes, including guarantees of repayment of commercial paper. (The combination of commercial paper with a backup standby letter of credit is known as a documented discount note.)

Commercial letters of credit are closely related to standby letters in that the bank, as the third party in the transaction, substitutes its creditworthiness for that of its customer to facilitate a commercial trade transaction. Traditionally, commercial letters of credit have been used in international trade transactions. This instrument enables an importer, the issuing bank's customer, to provide an exporter with a document guaranteeing payment by the bank when the conditions of that document are fulfilled. With the bank coming between the two parties to the transaction, the uncertainty concerning creditworthiness that might otherwise complicate the transaction is removed. When the exporter fulfills his side of the transaction and presents the required documents to the paying bank (the bank that issued the letter of credit or a bank it has authorized to act on its behalf), he receives either immediate payment or an accepted time draft specifying payment after some period. In the latter case, the resulting acceptance is a negotiable instrument that the beneficiary can discount immediately either with the paying bank or in the secondary market. The paying bank that buys its own acceptance can hold it (in which case the acceptance becomes in effect a straight loan) or rediscount it in the secondary market. Regardless of what the bank does, a transaction that previously had not been recorded on the balance sheet becomes a balance-sheet item. The liability "bankers acceptances outstanding" is balanced by the asset "customer liabilities to the bank," which is the amount now owed by the importer to the bank.

A particularly important and growing category of bankers acceptances is known as third-country acceptances. In such transactions a U.S. bank, for example, refinances a bankers acceptance of another country by endorsing it and then either holding it or rediscounting it in the secondary market.[1] This transaction is recorded on the face of the U.S. bank's balance sheet in the same way as any other acceptance.

A decidedly different category of off-balance-sheet items comprises financial futures and forward transactions. These contracts allow a bank to arrange to take delivery of an underlying security at a future time at an agreed-upon price; (securities of the Government National Mortgage Association, Treasury bills, and Treasury bonds are the securities underlying the most popular financial futures). In practice, very few futures contracts result in delivery of the securities, whereas forward contracts are usually a delivery mechanism. Futures contracts require the maintenance of a margin account, which a bank recognizes on its balance sheet although it generally does not recognize the entire contract.[2] Forward contracts require no margin, and therefore no notation concerning these accounts appears on bank balance sheets.

The financial futures markets are rather new: the first contract was traded on the Chicago Board of Trade in October 1975. The newness of this innovation partially explains why bank involvement in both financial futures and forward contracts has been relatively small. Bank involvement may expand, however, because these contracts enable banks to take positions reflecting their expectations regarding interest rate changes much more easily than they can otherwise. Moreover, because these instruments permit bank trust departments to lock in a given rate of return by taking a position in the spot market and pairing it with a similar, if not identical, offsetting futures or forward position, they may become especially popular as investments for a trustor's fund, such as a pension fund.

RECENT GROWTH OF OFF-BALANCE-SHEET ITEMS

The Federal Reserve's Loan Commitment Survey indicates that loan commitments have been growing at a somewhat faster rate

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1. The part of this activity represented by letters of credit presumably is conducted by the foreign bank.

2. Because the margin required to engage in these contracts is usually less than 5 percent of the market value of the contract, the difference between the margin account and the bank's actual position in these markets is substantial.

than have total bank assets. From mid-1973 to mid-1979 loan commitments grew 90 percent (from $146.2 billion to $277.7 billion), compared with the growth in total consolidated bank assets of 60 percent (from year-end 1973 to year-end 1978). Moreover, the importance of commitments to commercial and industrial lending has remained high during the period. Loan commitment takedowns appear to have a cyclical pattern; at least 38 percent, and as much as 50 percent, of commitments for commercial and industrial loans at 134 survey banks have been taken down each year since 1973.[3] These data suggest that the onset of tight money conditions inclines commercial and industrial borrowers to rely somewhat more than they otherwise would on commitments; but throughout the cycle loan commitments are an important method of financing the needs of such borrowers.

Compared with that of loan commitments, the growth in standby letters of credit has been dramatic. At year-end 1973 standby letters of credit amounted to $5.03 billion at all insured commercial banks. By year-end 1978 standby letters of credit had nearly quintupled, to $23.87 billion. Although these instruments were introduced in the 1950s, widespread use was delayed by both legal barriers and unfamiliarity. Over time, the banking industry has lobbied successfully for necessary changes in laws so that the instruments could be used in place of surety bonds and foreign bank guarantees, their close substitutes.

Some small banks issue standby letters of credit, but large banks have a disproportionate share of this type of instrument. Fully 90 percent of the value of all standby letters of credit are issued by banks with assets in excess of $1 billion (even though those banks account for under 60 percent of the assets of all banks), and one of these banks accounts for almost 30 percent of total standby letters of credit. This dominance by large banks is not surprising given the nature of standby letters of credit: First, the beneficiary must have confidence that the bank will honor its commitment, and beneficiaries probably tend to think of larger banks as more reliable. Second, because of their experience in international operations, larger banks are more familiar with the legal aspects of letters of credit. Finally, some standby letters of credit, particularly those associated with construction projects, are extremely large, and only the largest banks have the capacity to issue them.

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3. Loan commitment takedowns as a proportion of commercial and industrial loans for the surveyed banks have varied from 80 to 87 percent since 1973.

Nevertheless, more than one-half of all banks issuing standby letters of credit have less than $50 million in assets. A recent survey of activity in standby letters of credit indicates that in comparison with large banks, a somewhat higher proportion of standby letters of credit of smaller institutions apply to nonfinancial contracts.4/ The survey was not so detailed as to explain why such small banks are involved in these contracts, but information collected on their loss experience with standby letters of credit suggests that smaller banks generally use these instruments prudently.

Consistent, aggregated data on commercial letters of credit are unavailable because for most banks such information is uncovered only in the examination process.5/ More detailed and useful data are available on bankers acceptances, which appear on balance sheets and the Reports of Condition. Although commercial letters of credit and bankers acceptances do not correspond one to one, data on bankers acceptances offer some indication of the volume of commercial letters of credit.6/ The volume of bankers acceptances has grown almost as dramatically as the volume of standby letters of credit, from $8.89 billion in 1973 to $33.7 billion in 1978, a near quadrupling. This rapid rate of expansion continued through 1979 so that this market is now in excess of $40 billion. Like standby letters of credit and for much the same reasons, this market is dominated by the largest banks. Approximately 97 percent of the total value of all letters of credit and bankers acceptances is issued by banks with assets in excess of $1 billion. Only the larger banks have the capacity to issue acceptances of the size frequently required in trade transactions, and generally only the largest banks have the

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4. See Peter R. Lloyd-Davies, "Survey of Standby Letters of Credit," Federal Reserve Bulletin, vol. 65 (September 1979), pp. 716-19.

5. The Office of the Comptroller of the Currency has begun to collect data on commercial letters of credit on Schedule J of the Call Report. At this time, however, experience with these data is limited.

6. Data from examination reports (F.R. 209) for a sample of 614 member banks in 1977 indicate that the ratio of the aggregate total of commercial letters of credit to the aggregate total of bankers acceptances is 1.25.

reputation needed to discount their paper in the acceptance market.[7]

Activity in bankers acceptances has grown in part because the proceeds from a sale of eligible acceptances are excluded from Regulation D.[8] This exclusion and the self-financing nature of acceptances make them especially appealing during periods of tight money. A bank buying back its own acceptance has to fund this credit extension.[9] The bank can, however, immediately discount the acceptance in the secondary market, and the proceeds are not subject to reserve requirements. This financing option is not available in most of the bank's other extensions of credit. Another major reason for the significant growth of bankers acceptances is third-country acceptances. As of year-end 1978, $16.2 billion, or half of the total of U.S. acceptances outstanding, consisted of third-country acceptances, an increase of almost 700 percent since 1974. A large portion has been attributed to Japan's transactions with members of the Organization of Petroleum Exporting Countries, which have increased dramatically in the last five years.

Of all the off-balance-sheet items, bank participation in futures and forward contracts is the most recent (one reason for a lack of data on bank involvement in these activities). In a survey by the Commodity Futures Trading Commission of all holders of open positions in financial and foreign exchange futures on November 30, 1977, a maximum of 30 commercial banks were holding futures on Treasury bills, Treasury bonds, and GNMAs, representing claims of $723.4 million in underlying

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7. As discussed below, acceptances are limited per customer and in the aggregate; however, letters of credit and bankers acceptances can be issued through a participation or syndication.

8. Bankers acceptances are classified as to eligibility for discounting at the Federal Reserve depending on the type of transaction financed and the term to maturity. The proceeds from the sale of ineligible acceptances are subject to reserve requirements. For an extended discussion of eligibility, see Michael A. Goldberg, "Commercial Letters of Credit and Bankers Acceptances," in this compendium.

9. In the example of an importer and an exporter engaged in a trade transaction, the importer usually has to pay back the issuing bank when the accepted time draft matures; however, the issuing bank may purchase its acceptance from the exporter well in advance of the maturity date of the acceptance.

securities. These banks held only 4 percent of the face value of all outstanding financial futures on that date.

Results from a survey conducted through the examination process of the Federal Reserve System from June 30, 1978, to May 18, 1979, suggest that state member banks have positions of at least $350 million in futures, $1,250 million in forwards, and $15 million in standbys.[10] By year-end 1978, national banks had contracted to purchase $6,301 million in securities and to sell $5,865 million in securities under futures, forward, and standby contracts. Moreover, several banks that serve as primary dealers in government securities also act as dealers in GNMA forward contracts. These banks engage in heavy trading of GNMA forwards (ranging from $20 million to $90 million per day), making markets in these contracts. Anecdotal evidence suggests that banks have only begun to become involved in these markets.

REGULATION OF OFF-BALANCE-SHEET ITEMS

While the recent experience with off-balance-sheet items suggests that the banking industry is quick to respond to the needs of its customers and to adapt operations to changing markets, the rapid growth in off-balance-sheet operations is unsettling insofar as it is not reflected on the face of bank balance sheets. This is not to suggest that bankers are interested in off-balance-sheet items only because they are less visible; but because this is an area of bank operations that typically cannot be monitored as closely as other areas, it is potentially a problem. Moreover, bankers may, in fact, be attracted to these off-balance-sheet items as a way of circumventing regulation.

Limited evidence supports the notion that bankers inclined to unsafe and unsound practices find off-balance-sheet items an attractive vehicle. Perhaps the most famous case involves the use of standby letters of credit by U.S. National Bank of San Diego. Before the regulatory changes of 1974, it was possible to circumvent limitations on loans to individual customers by using standby letters of credit to allow customers to borrow from third parties. Banks could extend credit in the form of standby letters of credit well past the limits of prudence without having to increase their capital or notify stockholders or regulators. Such transactions proved to be a major factor in the failure of U.S. National Bank of San Diego. The bank's principal stockholder, C. Arnhold Smith, used standby letters of credit to back third-party loans to companies he controlled. When several of these companies failed and defaulted on their loans, the letters of credit were drawn down, contributing to the closing of the bank. This case prompted regulatory changes that should prevent a recurrence. The Board survey of 1979 indicates that standby letters of credit generally are used prudently, and there have been no reports of supervisory problems resulting from their use.

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[10] In this context, standbys refer to a type of put option and are not to be confused with standby letters of credit.

Inadvisable positions and trading abuses in forward and standby contracts have been recorded by all federal bank regulatory agencies. These have generally been problems of small banks involving GNMA forward and standby commitments that were excessive relative to the bank's ability to absorb losses. The three federal bank regulatory agencies, in order to discourage such inappropriate activities, have established uniform guidelines affecting the manner in which banks engage in these transactions. These guidelines became effective January 1, 1980.[11]

Bank loan commitments are not restricted by regulation. Thus a bank could overcommit itself so that the volume of loans taken down under commitments at a given time exceeded the bank's funding capability. Such an occurrence seems most likely during tight-money periods; however, no supervisory problems of this type have yet arisen. Thus, although the issue of whether to place restrictions on loan commitments may be of some interest, available evidence suggests that it need not receive immediate attention.

Bankers acceptances are subject to several restrictions in the Federal Reserve Act. These restrictions, which are considered below, have implications for the conduct of monetary policy. Insofar as supervisory policy is concerned, however, the market for bankers acceptances has provided effective discipline of bank behavior, and bankers acceptances appear to be free of supervisory problems.

MONETARY POLICY CONSIDERATIONS

Neither the potential liabilities emanating from the eligible bankers acceptances of a granting bank nor standby letters of credit are subject to reserve requirements. This immunity

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11. See Brian Charles Gendreau, "Financial Futures and Forward Contracts," in this compendium, for a copy of these guidelines.

could pose problems for the conduct of monetary policy, inasmuch as both instruments may be used as close substitutes for conventional forms of bank intermediation. To the extent that the amounts outstanding are large and volatile, the statistics on money supply may be less meaningful and the Federal Reserve's control over the economy may be weakened.

In the 1970s, the Board considered applying reserve requirements to eligible bankers acceptances outstanding. It was acknowledged that sale of acceptances creates a liability that is very similar to a certificate of deposit, but with the added advantages, from the issuer's point of view, of exemption from Regulations D and Q. Certain restrictions contained in section 13 of the Federal Reserve Act, however, limit the ability of banks to substitute acceptances for certificates of deposit. Acceptances that are eligible for discounting at the Federal Reserve must grow out of certain kinds of trade transactions and are subject to an aggregate limit of 50 percent of the capital and surplus of the issuing bank.12/ Although these restrictions were originally justified by the real-bills doctrine, which was in vogue at the time the Federal Reserve Act was drafted, the Board has refused to make the sale of eligible acceptances subject to reserve requirements on the grounds that the limits on their issuance form an adequate constraint on nonreservable credit expansion. In a related action, the Board has made clear that the aggregate limitation does not apply to ineligible (that is, reservable) acceptances.13/ Because of this reservability, however, ineligible acceptances are only a negligible part of the market.

Finance bills, a type of ineligible acceptance that, because of a legal interpretation, was originally deemed to be nonreservable, grew rapidly for a while. Eventually the Board ruled that they were being used as a direct substitute for certificates of deposit and thus should be subject to reserve requirements. Around the same time, the Board removed interest rate ceilings from large-denomination certificates of deposit, and finance bills have subsequently dropped to negligible levels.

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12. This limit may be raised to 100 percent with the written approval of the Board of Governors. This approval need be obtained only once, and most banks active in this market obtained such approval long ago. The higher limit does not apply to acceptances arising out of domestic transactions, which are still limited to 50 percent of capital and surplus. See 12 C.F.R. Part 204.

13. See miscellaneous interpretations of the Board of Governors, 12 C.F.R. Part 250.

Certain financial uses of standby letters of credit may be motivated by a desire to avoid reserve requirements. Documented discount notes, for example, are close substitutes for conventional bank intermediation, and their use rises during periods of high interest rates. Unlike eligible acceptances, standby letters of credit are not subject to any aggregate limitation. Nevertheless, the Board has judged that reserves should not be imposed on them. The majority of standby letters of credit are not issued to avoid reserve requirements but rather to make efficient use of the information that a bank has collected on the creditworthiness of its customers. The imposition of reserve requirements could greatly increase the fee banks would have to charge, and could impair the ability of U.S. banks to compete with European banks and surety companies in meeting the legitimate needs of their customers.[14] Documented discount notes represent less than 5 percent of all standby letters of credit and no more than 1 percent of the commercial paper market.

One final issue concerns data. As the earlier discussion on the recent growth of off-balance-sheet items demonstrates, there is a certain unevenness in the frequency and detail of data collected on the various items considered in this study. Only standby letters of credit and bankers acceptances are included in the Reports of Condition. For the former item the data are aggregated, so that special surveys, such as that in 1979 by the Federal Reserve, are required for better understanding of the use of this instrument. In the latter case, data on the associated commercial letters of credit are available only for national banks. Data on loan commitments are obtained through a monthly survey of 134 commercial banks that is somewhat incomplete in that it emphasizes the uses of commitments rather than the terms under which they are secured. Finally, no information is routinely collected on bank involvement with futures, forwards, and standby contracts. The Reports of Condition and Income are, however, being updated in accordance with the recently announced policy by the federal bank regulatory agencies on these contracts. Gains, losses, and margin accounts associated with trading in these contracts will soon be reported.

Additional data collected on a periodic basis for any of these off-balance-sheet items could certainly be useful; but given the cost of data collection no serious recommendation is proposed. Special surveys addressed to particular questions have proved adequate in the past, and there is no compelling justification for altering current practices at this time.

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[14] Because the fee on standby letters of credit tends to be small, the imposition of reserve requirements could more than double it. See Peter R. Lloyd-Davies, "Standby Letters of Credit," in this compendium.

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STANDBY LETTERS OF CREDIT OF COMMERCIAL BANKS

Peter Lloyd-Davies

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Standby letters of credit first attracted public attention in the 1970s. During that decade, the amount outstanding rose tenfold or more, and by 1980 issuing standby letters of credit had become a significant new service that many banks provided to their customers. This paper examines the nature of this new service and the reasons for its emergence. Because banks have occasionally issued these instruments imprudently, so that losses and even failure have resulted, regulators have been concerned that issuing standby letters of credit may pose special risks for banks and the banking system. This paper examines the adequacy of the measures that regulators have taken to prevent these kinds of problems and reviews some more stringent measures proposed by some members of the Congress to restrict the ability of banks to issue standby letters of credit.

SUMMARY

A commercial bank may issue a standby letter of credit in connection with a contract between two parties when one party requires assurance that he will not suffer loss should the other party fail to perform some obligation required of him. The standby letter of credit is issued by the second party's bank and permits the first party to draw funds from the bank if such a failure to perform is alleged; the second party is then liable to the bank for the amounts disbursed. Thus, by issuing a standby letter of credit, the bank substitutes its own obligation for that of its customer, just as in a commercial letter of credit. Indeed, in form and in law, a standby letter of credit is no different from any other letter of credit; the only practical difference is the expectation that under normal circumstances the beneficiary of a standby letter of credit will not demand payment under the credit and that it will expire unused.

Standby letters of credit are issued in conjunction with numerous types of underlying contracts. One of their most common uses is to back up a contractor's obligation to complete a construction project, a role they play extensively in connection with large international projects. They may also be used to assure repayment of commercial paper and other loans made by third parties to the bank's customer. The main competitors to issuing banks for this business are insurance companies and European banks that may issue payment guarantees.

National banks (and most state banks) are prohibited from issuing guarantees. Since standby letters of credit are close substitutes for guarantees, they serve as a way around this prohibition. They may also provide relief from other regulatory pressures, such as reserve requirements and interest rate ceilings, by allowing banks to support their customers' borrowing in the open market without attracting deposits and making loans. Moreover, banks may like to use them because they do not appear in the main body of the balance sheet, although they must be reported in footnotes to the financial reports.

The use of standby letters of credit continues to grow rapidly. The fully consolidated call reports for March 1980 showed over $38 billion outstanding, up from $5 billion at the end of 1973. Most of this total is issued by the largest banks; the ten largest issuers (each having assets of $20 billion or more) account for close to three-quarters of the total. Standby letters of credit in support of commercial paper, once an area of concern, represent a relatively small fraction (about 5 percent) of the total.

Standby letters of credit, like direct loans, may be issued imprudently. When the U.S. National Bank of San Diego failed in 1973, the reason lay partly in its inability to recover funds paid out under standby letters of credit. Following this failure, certain regulatory changes were implemented to prevent similar abuses. These changes require banks to treat standby letters of credit as loans for purposes of credit analysis and loan limitations to individual borrowers, and examiners are directed to treat them like loans for capital-adequacy and loan-examination purposes. Since these changes were made, no evidence suggests that standby letters of credit have caused any major difficulties for individual banks or the banking system.

The Congress has recently considered imposing further restrictions on their use, including an aggregate limit on the amount a single bank may issue and reserve requirements. Such moves would probably result in a radical curtailment in this kind of business and lay significant costs on some banks and their customers. On the grounds that the case for further restrictions has not been convincingly made, the Federal Reserve and the other regulatory agencies have opposed such proposals.

LEGAL FOUNDATIONS OF LETTERS OF CREDIT

Letters of credit have been in use in various forms at least since the Middle Ages; some writers claim to trace them back to the days of the Roman Empire. During all this time, their fundamental principles have changed scarcely at all. As defined in the Uniform Commercial Code §5-103(1)(a),

> "letter of credit" means an engagement by a bank or other person made at the request of a customer and of a kind within the scope of this Article that the issuer will honor drafts or other demands for payment upon compliance with the conditions specified in the credit.

Typically, three parties are involved in the transaction that gives rise to the letter of credit: the bank (the issuer), its customer (the account party), and a third party (the beneficiary), who is entitled to draw under the credit. The account party generally is entering into a contract in which he undertakes a direct or contingent obligation to the beneficiary.

An ordinary commercial letter of credit arises out of a transaction in which the seller agrees to ship goods to the buyer, who is then obligated to pay for them. A letter of credit solves certain problems that may arise if the transaction is to be completed directly. The seller of goods may not have confidence in the buyer's willingness or ability to make payment; enforcement of the obligation may be complicated because the two parties reside in different countries; or the buyer may not have access to funds until he himself sells the goods, whereas the seller may wish to be paid earlier than that. Therefore, the buyer obtains a letter of credit from his bank that obligates the bank to make payment to the seller (or to authorize some other bank to make payment on its behalf) immediately or after some specified interval following presentation of certain documents. These documents generally are prima facie evidence that the seller has fulfilled his side of the underlying contract; they may include title to the goods, so that the bank has a security interest to make it easier to obtain reimbursement from its customer. The letter of credit is commonly confirmed by a bank that is located close to the beneficiary, in order further to assure payment. In such cases, the confirming bank also acquires a direct liability to the beneficiary, just as if it had issued the original letter of credit.

When the documents are presented, the paying bank must pay either at once (if the letter of credit requires) or after a specified interval. In the latter case, it acknowledges its unconditional obligation to pay the amount in question by issuing an acceptance, [1] which is a negotiable instrument, rather like a negotiable certificate of deposit. If the beneficiary wishes to receive funds immediately, the instrument may readily be sold to the issuing bank or on the secondary market; thus interim financing may be provided between the shipment of the goods and the date on which the acceptance matures. On that date, the beneficiary or the holder in due course may present the acceptance for payment at the bank, and at the same time the buyer of the goods is required to reimburse the bank for the payments made under the letter of credit. Thus the beneficiary receives a claim on the bank instead of a claim on a party of unknown reliability, and interim financing is conveniently and inexpensively provided by the acceptance market.

This example illustrates the basic principles underlying any transaction effected with the help of a letter of credit. Three separate contractual relationships are involved: the letter of credit itself, the bank's agreement with its customer, and the underlying contract between the account party and the beneficiary.

Letter of Credit

The letter of credit itself is a contract between the issuing bank and the beneficiary. It is a somewhat unusual contract in that normally no mutuality of interest binds the parties--the bank receives no fee from the beneficiary--and it is undertaken at the request of one who is not party to the contract, the bank's customer. One of the most important legal aspects of this contract, embodied in both the Uniform Commercial Code and the Uniform Customs and Practices for Documentary Credits, is that the letter of credit is separate from the underlying contract; [2] consequently, the rights of the issuer and the beneficiary under the letter of credit are determined only by the terms of the letter of credit itself (that is, the presentation of the requisite documents), and are not affected by the performance or nonperformance of the underlying contract. This means that banks pay against representations of facts, not against the facts themselves. The bank may refuse to pay if there are apparently minor irregularities in the documents presented; 3/ but it may not refuse to pay if there is a dispute over the quality of the goods shipped, even if it might be determined that the shipment fails to satisfy the conditions of the underlying contract. 4/ Thus the bank is completely unaffected by disputes over the quality of goods or the intentions of the other parties signing the underlying contract and may consider only the documents themselves unless fraud is alleged. These conditions make letters of credit basically simple contracts both in their drafting and in their execution, with little room for disputes.

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[1] More precisely, the seller presents the paying bank with the required documents, plus a draft on the bank. The bank then accepts the draft by signing it and stamping it "Accepted." If the bank should not honor its acceptance, the seller is secondarily liable to a holder in due course.

[2] The International Chamber of Commerce has established a uniform set of definitions and rules for handling payments. This document, the Uniform Customs and Practices for Documentary Credits, is usually incorporated in its entirety directly into a letter of credit.

Contract between Bank and Customer

The contract between the bank and its customer ("the agreement") is a much lengthier document. The bank agrees to write the letter of credit, and in return, the account party undertakes (1) to pay a fee to the bank, which may be as low as 1/8 percent or as high as 1 percent of the amount of the credit for a standby letter of credit per year that it is outstanding; (2) to deposit funds with the bank in anticipation of any disbursements the bank has to make under the letter of credit; (3) to allow the bank to debit its account to cover any amounts that come due; (4) to pledge its property as security for its obligation to the bank under the letter of credit; and (5) to permit the bank to call for specific collateral during the life of the credit. If some doubt exists about the bank's ability to recover immediately all amounts paid to the beneficiary, the agreement may also call for the balance to be booked as a loan at an interest rate to be set by the bank. The intent of this document is to

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3. A recent court judgment established that a bank must still pay if the irregularities could under no circumstances mislead the bank to its detriment. See Flagship Cruises, Ltd. v. New England Merchants, 569 F. 2d 699 (1978).

4. The only exception to this principle is when the bank knows that, as a result of fraud committed by the beneficiary, the claims contained in the documents presented are untrue (the shipping documents are forged or the containers described as holding merchandise are in fact empty). In such a case, the account party may seek an injunction to restrain the bank from paying until the facts are determined. See Sztejn v. Schroeder Banking Corp., 177 Misc. 719, 31 N.Y.S. 2d 631 (1941).

give the account party every incentive to perform its obligations to the bank short of the direst emergency.

Contract between Account Party and Beneficiary

At the heart of the letter of credit transaction is the underlying contract between the account party and beneficiary. The conventional commercial letter of credit is built around a commercial contract, often involving the import or export of merchandise. As already described, it assures the beneficiary (seller) that he will receive timely payment for performing his part of the contract. 5/

The contract between the account party and beneficiary underlying a standby letter of credit requires the account party either to perform a service or to make a payment to the beneficiary; the letter of credit assures the beneficiary that he will receive compensation for any damages caused by nonperformance of the account party. Examples of nonfinancial obligations include undertakings by the account party to complete a construction project satisfactorily, to ship merchandise of acceptable quality, to maintain or service equipment, and to safeguard leased property. Traditionally, the owner of property has protected himself against damage by requiring a performance bond issued by a surety company. Similar protection is provided by a letter of credit, which allows the beneficiary to collect up to some stated amount by presenting to the bank a document alleging that the account party has defaulted on the underlying contract.

Both in form and in law, the standby letter of credit is no different from any other letter of credit. The term "standby" reflects the expectation that the underlying contract will not be breached, and that consequently the beneficiary will not present any demand for payment. As in the case of a commercial letter of credit, the standby letter of credit specifies that a particular document must accompany any demand for payment. 6/ In the simplest case, this document may be just a signed statement by the beneficiary that a default of some kind has occurred. The bank is then obligated to pay, no matter how loudly its customer may protest that the underlying contract

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5. A retail purchase using a bank credit card is the most commonplace letter of credit transaction.

6. Drafts that are presented under standby letters of credit are generally payable on sight, so no acceptances are created.

was not breached; and its customer will be required by its agreement with the bank to reimburse it for the draft. At this point, the account party may challenge the beneficiary's statement in court to try to recover the money paid, but the bank is no longer involved.

If there is reason to mistrust the beneficiary, the bank may require demands for payment to be accompanied by submissions from independent parties; for example, a statement by an independent expert who is designated in the letter of credit, a statement by an arbitration board, or even a court judgment against the account party.

The other type of contract that may be accompanied by a standby letter of credit is a financial contract calling for the account party to pay the beneficiary some amount of money in the future. The standby letter of credit allows the beneficiary to obtain the money from the bank if the account party fails to make payment. One such use is made in connection with the issuance of commercial paper. Say a firm wishes to borrow in the commercial paper market but either cannot do so on the strength of its own credit rating alone or can do so only at an unacceptably high interest rate. At the firm's request, its bank issues letters of credit, naming either the bearer of the commercial paper or a trustee as beneficiary and requiring demands for payment to be accompanied by a statement by the beneficiary that the paper has matured and that there is unpaid interest or principal. Commercial paper supported in this way by a standby letter of credit is known as a documented discount note and trades very much like a direct obligation of the bank.

Other kinds of debt may have standby letters of credit attached to allow the borrower to obtain a more favorable rate, and numerous other kinds of financial obligations that do not arise out of either the purchase of goods or an explicit loan of money may be backed by standby letters of credit. One example is obligations of brokers and their customers in connection with futures contracts. Whenever the price of a futures contract changes, one of the two parties to the contract must pay the amount of the change to the other. This obligation is secured with a margin deposit, which under certain circumstances may be in the form of a standby letter of credit. Option writers similarly must secure their undertakings to deliver or take delivery of securities; standby letters of credit are used here, too. They may be written in favor of a surety company to back up a surety bond issued on behalf of the bank's customer. Standby letters of credit may be used in connection with employment contracts, especially for professional athletes, and one was used to guarantee payment to the contestants at a world championship heavyweight boxing match. Other uses include providing security for alimony or child-support payments and giving assurance that tax payments will be made.

ALTERNATE METHODS OF ASSURING CONTRACT PERFORMANCE

From an economic point of view, standby letters of credit are very similar to guarantees or surety contracts. Like those instruments, they serve to transfer to the bank a risk that would otherwise be borne by the beneficiary. There are, however, certain legal and economic differences between a guarantee and a letter of credit. The surety is liable for the account party's performance just as if it had signed the underlying contract itself. If the party claiming injury submits a claim to the surety, the latter has two main defenses. The first is to assert no breach of the underlying contract, which requires the claimant to go to court to prove damages. The second is to arrange for the contract to be completed by someone else. [7] Neither defense is available to the issuer of the standby letter of credit, since the beneficiary's right to payment is formally independent of the account party's performance of the underlying contract. Thus the beneficiary of a letter of credit is often in a stronger position than the claimant in a surety contract, [8] and the beneficiary probably pays for this advantage through compensating adjustments in the terms of the underlying contract.

Not only is the bank more likely to pay than is a surety, but the bank's situation also makes it easier for it to collect from its customer. The bank may simply debit its customer's account for the amount of the draft. If this is not feasible because of the amount involved, the account party will still make a considerable effort to provide the funds so as to avoid jeopardizing its relationship with the bank. The surety, on the other hand, does not have the same multifaceted relationship with a customer, and its power to obtain reimbursement is no stronger than the power of the beneficiary to collect directly.

These arguments suggest that the underlying contract is more likely to be performed if it is backed by a letter of credit rather than by a surety contract, because the account party is more certain of suffering financial loss following a default.

Another distinction between the two ways of assuring performance arises from the cost of obtaining information about the reliability of the account party. The customer who requests a standby letter of credit probably has a complex relationship with the bank, including other kinds of credit arrangements.

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[7] This is not uncommon with construction bonds: the original contractor runs into financial difficulties and is unable to complete the contract, so the surety arranges for another contractor to finish it.

[8] An exception is the case in which drafts must be accompanied by a court judgment.

In these circumstances the incremental cost of evaluating the request for a standby letter of credit is extremely small. By contrast, the cost to the surety is much higher because the information is not routinely generated in other dealings. Indeed, the not uncommon practice of a surety requiring a bank standby letter of credit to indemnify it against potential losses is founded precisely on the bank's superior access to information about the account party. In such a situation the only reason for the involvement of a surety is the beneficiary's insistence on a surety contract (for example, because of legal requirements that do not recognize a standby letter of credit as the equivalent).

Contract performance may be assured by other devices, too. One way is for the customer to borrow money from the bank and deposit it in an escrow account from which damage claims may be paid. If payments are made from the escrow account, the account party must raise funds elsewhere to repay the loan. This device is thus very close to a standby letter of credit. The differences mostly favor the use of standby letters of credit. Letters of credit are much simpler documents to draw up and enforce, largely because the Uniform Customs and Practices for Documentary Credits standardizes the procedures for payment and resolution of disputes. A bank issuing a letter of credit instead of making a loan averts the interest rate risk it would face unless the instrument used to raise the funds had exactly the same maturity as the loan. Furthermore, it can avoid the bookkeeping expenses associated with raising funds. Thus the cost to the customer of the escrow transaction, which is the spread between the rate paid on the loan and the rate earned on the assets in escrow, is generally far higher than the fee charged for a standby letter of credit. If the bank raises the money by issuing a certificate of deposit, it must mark up the loan rate by about 80 basis points over the rate paid on the CD in order to cover the cost of reserves. 9/ In addition, the CD rate is generally about 1 percentage point above the rate on government securities. By contrast, a prime customer may be able to obtain standby letters of credit for an annual fee of as little as 12 basis points.

For all these reasons, standby letters of credit are an attractive alternative to placing funds in escrow as a means of assuring contract performance. Therefore, given a choice, the bank's customer most frequently chooses the former. For example, on June 30, 1977, nearly $1.5 billion was on deposit as margin at the Options Clearing Corporation, which is the clearing house

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9. This assumes an 8 percent reserve requirement and 10 percent return on the certificates.

for the Chicago Board Options Exchange. Over one-half of margin deposits were in the form of the securities on which the options were written; of the remainder, over 91 percent was in the form of standby letters of credit (the rest were U.S. government securities and cash).

One other method of assuring the performance of financial contracts is worth mentioning, although it is not normally a close substitute for a letter of credit. Borrowers in the commercial paper market generally find it necessary or desirable to obtain unused lines of bank credit to cover their commercial paper commitments to assure lenders that the maturing paper will be paid in full. This situation is similar to the one in which the borrower attaches a standby letter of credit to the commercial paper, allowing the lender to draw on the bank if the borrower defaults. The letter of credit appears to offer certain advantages over the loan commitment, because the bank's obligation under the letter of credit is directly to the commercial paper holder, whereas the loan commitment may be contingent on the soundness of the borrower's financial condition and in any case is terminated automatically if the borrower goes bankrupt. Thus only borrowers of the highest credit standings can obtain funds in the commercial paper market without a standby letter of credit or other guarantee. Less creditworthy borrowers may use standby letters of credit, although banks seem to prefer making direct loans.

STANDBY LETTERS OF CREDIT AS A WAY TO AVOID REGULATION

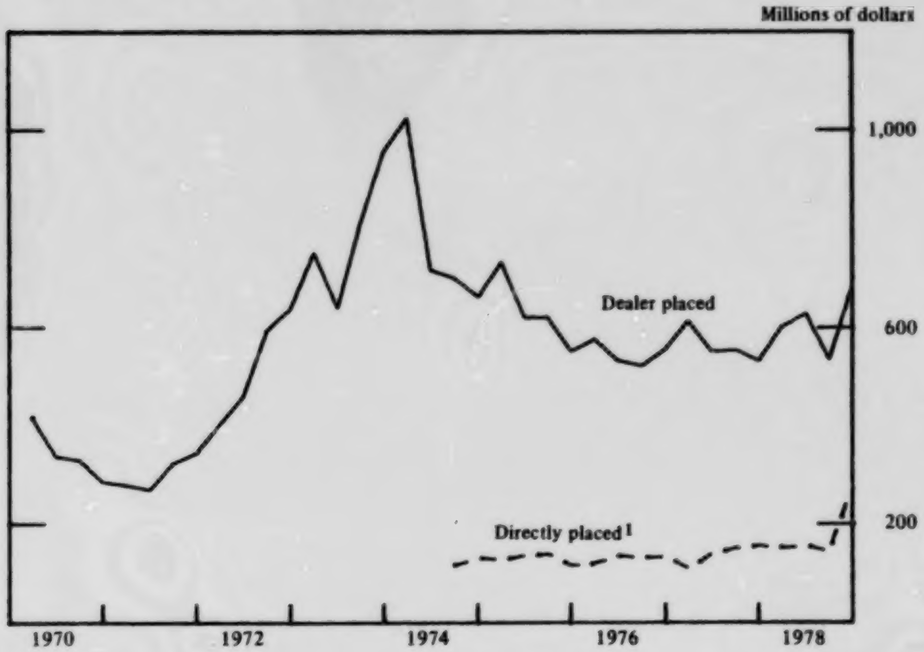
Regulating certain aspects of bank behavior tends to encourage banks to expand their activities in areas that are not subject to the regulatory pressures. Standby letters of credit may serve to reduce these pressures, but the economic advantage to the user can be more than offset by social costs resulting from the subversion of some desired regulatory goal. Those social costs depend on the benefits that would be received if the regulation were more effective.

The following are some regulations that may be circumvented through the use of standby letters of credit.

Interest Rate Controls

As interest rates rise, Regulation Q ceilings make it harder for a bank to attract deposits. Under such circumstances, a

1. Documented discount notes outstanding, end of quarter, 1970–78



1. Data have been collected only since August 1974.

Source. Federal Reserve Bank of New York.

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bank may be forced to cut back direct lending to its customers; it may, however, be able to meet its customers' needs by issuing standby letters of credit that permit borrowing in the open market or from lenders unaffected by interest rate ceilings. Thus the ceilings fail to choke off the supply of funds to borrowers, merely rechanneling them outside banks.

This substitution occurs to some extent. Documented discount notes placed by dealers rose from a low of under $300 million in 1971 to over $1 billion in 1974. Then they fell back to about one-half of that amount in 1976 before rising again in 1978 (chart 1). This pattern coincides with the cycle in interest rates. Documented discount notes were also used heavily in 1969 and 1970 by bank holding companies as a source of funds that were not subject to reserve requirements to replace deposit outflows that were caused by Regulation Q ceilings (see discussion below). Thus, in the absence of standby letters of credit, periods of high interest rates would have resulted in a more abrupt cutoff of funds to bank customers than actually occurred.

Reserve Requirements

The reserve burden is one of the significant costs of channeling funds through the banking system. Standby letters of credit have been used in two different ways to relieve this burden. In the late 1960s, banks discovered a source of nonreservable funds in the form of documented discount notes issued by the holding company. The great increase in this practice took place in 1969, when soaring interest rates were causing serious disintermediation. In 1970, this loophole was closed by treating any device that supplies the bank with short-term funds as a reservable deposit. At the same time, interest rates fell back again, and holding-company issuance of documented discount notes faded away. As this happened, nonbank use of documented discount notes started to increase. It represents the other way of avoiding the reserve burden: banks issue standby letters of credit to allow customers to borrow directly in the commercial paper market, so that the funds do not have to flow through the bank at all. Furthermore, the reserve burden tends to increase when interest rates are high, and so the use of documented discount notes by nonbanking firms rises in times of high interest rates.

Regulation D, in conjunction with open market policy, enables the Federal Reserve System to regulate interest rates, the money supply, and thereby the level of economic activity. The use of standby letters of credit as a close substitute for bank credit might subvert this control in ways that could have adverse macroeconomic consequences. Control over interest rates is unlikely to be affected, since the Trading Desk may still conduct open market purchases and sales to attain any desired interest rate. But certain money supply statistics, notably the broader aggregates like M3, may become less meaningful if there are unpredictable shifts between conventional bank intermediation and open market borrowing supported by standby letters of credit.

At present, this problem appears to have little quantitative significance. The commercial paper market already represents a close substitute for bank intermediation with over $120 billion outstanding, only about $1 billion of which is in the form of documented discount notes. Furthermore, the Federal Reserve can easily define monetary targets to include documented discount notes or even all commercial paper outstanding, although the desirability of doing this remains to be demonstrated. If it were done, the Federal Reserve would still have some control over this total, just as it now controls aggregates that include nonmember deposits that are not subject to reserve requirements. Documented discount notes would present a problem only if they became a much more important form of intermediation than they are today.

Even though the use of standby letters of credit may not yet pose a macroeconomic problem, doubtless their use is motivated to some extent by the desire to avoid the reserve burden. This inducement does not reflect any real resource savings and hence could result in economic inefficiency if open market borrowing supported by standby letters of credit is in fact intrinsically inferior to direct bank lending as a form of intermediation. This kind of inefficiency might be remedied by requiring reserves to be held against standby letters of credit. On the other hand, standby letters of credit that are used as performance bonds are not close substitutes for direct bank intermediation, and the desire to avoid reserve requirements does not figure in their use. Requiring reserves against such letters of credit would create an artificial disincentive to their use and thus would itself be inefficient.

Capital Requirements, Balance Sheet Disclosure, and Loan Limitations

Before the regulatory changes in 1974, standby letters of credit could be used to circumvent capital requirements based on total assets and loan limitations to individual customers because they were not included as loans nor, therefore, as a part of total assets. Thus banks could extend contingent credit to individual borrowers in the form of standby letters of credit well past the limits of prudence, without having to raise additional capital and without having to report to stockholders or regulators. These circumstances proved to be a factor in the failure of U.S. National Bank of San Diego in 1973, where standby letters of credit were used to back loans made by other financial institutions to companies controlled by the bank's principal stockholder. In some instances, money received from depositors was fraudulently booked as a direct loan from the depositor to these other companies, backed with a standby letter of credit from the bank to the depositor. Ultimately, several of these other companies failed and defaulted on their loans, causing the letters of credit to be drawn down and leading to the closing of the bank.

The U.S. National case is complicated by fraud. Nevertheless, it showed that even in the absence of fraud, a bank could evade restrictions designed to prevent imprudent lending and concealment of liabilities. Consequently, the three bank regulatory agencies have ruled that standby letters of credit must be treated as loans for the purpose of limitations to a single borrower, capital requirements, and bank examination. Disclosure is also required in the bank's annual report and call reports, although it is made in footnotes and memoranda rather than in the body of the balance sheet. Thus the potential for using letters of credit to avoid these regulations has now largely been eliminated. [10]

S.E.C. Registration Requirements

Commercial paper is generally exempt from registration requirements of the Securities and Exchange Commission if it meets two tests: it must have a maturity of less than nine months, and it must be used to finance current transactions. But under section 3(a)2 of the Securities Act of 1933, any securities issued or guaranteed by a bank are automatically exempt from S.E.C. registration. It has been charged that firms have obtained standby letters of credit from banks as a way of avoiding registration when issuing securities that would not meet the other tests for exemption. [11]

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[10] There is still some disagreement over the appropriate manner of presenting standby letters of credit on the balance sheet. This matter is discussed below.

[11] See statements of Alvin Zises and H. Russell Fraser in Regulation of Standby Letters of Credit, Hearing before the Senate Committee on Banking, Housing and Urban Affairs, 94 Cong. 2 Sess. (Government Printing Office, 1976), pp. 101-46.

This charge has dubious merit. The law clearly provides for this exception, and so it cannot be supposed to violate the intent of the law makers. Registration is intended to protect the lender by providing information relating to the borrower's ability to meet his obligations. With a standby letter of credit backing the loan, the borrower's financial condition no longer determines whether the lender will be repaid. The purpose of requiring registration, then, is not subverted through the use of standby letters of credit.

Surety Regulations

The surety industry is subject to a variety of rules and regulations imposed by the states and certain other rules required by the U.S. Treasury Department for sureties to be qualified to post bonds on federal construction projects. These rules may include limits on the size of a single risk, generally based on the firm's capital, and the requirement for approval of rates by state insurance departments. When banks issue standby letters of credit that are substitutes for surety bonds, they may have a competitive edge over surety companies that derives simply from freedom from these restrictions.

On the other hand, bank issues of standby letters of credit are also regulated. They are included in the limitations on loans to a single borrower, are treated as loans for the purpose of determining capital adequacy, and are subject to examination by bank examiners. Reinsurance, a common practice among sureties to reduce the size of individual risks, may be accomplished through participations in letters of credit. In some states, the sureties have a clear regulatory advantage, because not all state laws recognize standby letters of credit as equivalent to surety bonds. Thus it is by no means certain that banks are subject to less regulation than are sureties. Because there is virtue in treating like activities alike, a uniform regulatory scheme that would subject banks and sureties to exactly the same regulations might make sense. Devising such a scheme is unlikely to be easy, however, because sureties are largely regulated by the states.

Prohibition against Banks Giving Guarantees

As discussed below, no statute prohibits national banks from offering guarantees, but case law has established that guarantees are not part of the business of banking, and that therefore they are not a permissible bank activity except under certain special circumstances. From a legal perspective, standby letters of credit are not guarantees, because the issuing bank's liability is contingent solely on the presentation of certain documents and not on the account party's nonperformance of the underlying contract. Economically, they clearly fulfill the same purpose as guarantees; so do ordinary commercial letters of credit, and perhaps to some degree so do many other banking activities such as loan commitments and asset sales with full-recourse endorsements. It is clear that standby letters of credit are being used to avoid the prohibition against bank guarantees, but it is less clear how undesirable this practice is. This matter is discussed in more detail below.

DATA

Data have been collected on standby letters of credit since December 1973 as a memorandum item on the call report--semiannually through 1975 and quarterly since then. Before 1973, the only available sources of data were examination reports. The totals for all insured banks of domestic, as well as consolidated foreign and domestic, standby letters of credit are graphed in chart 2. These show rapid growth in all periods except 1974, when domestic standby letters actually fell by around 7 percent. The fall was probably due to the recession in that year, and it was strongly influenced by the problems of the real estate investment trusts (REITs). (See the next section.)

The figures reported for domestic offices only are hard to interpret because they do not necessarily refer solely to domestic transactions. Banks usually prefer to issue standby letters of credit that are payable at their head office in the United States to ensure that the terms and conditions of the letter of credit are governed by U.S. law. 12/ Another reason for issuing standby letters of credit from U.S. offices, even

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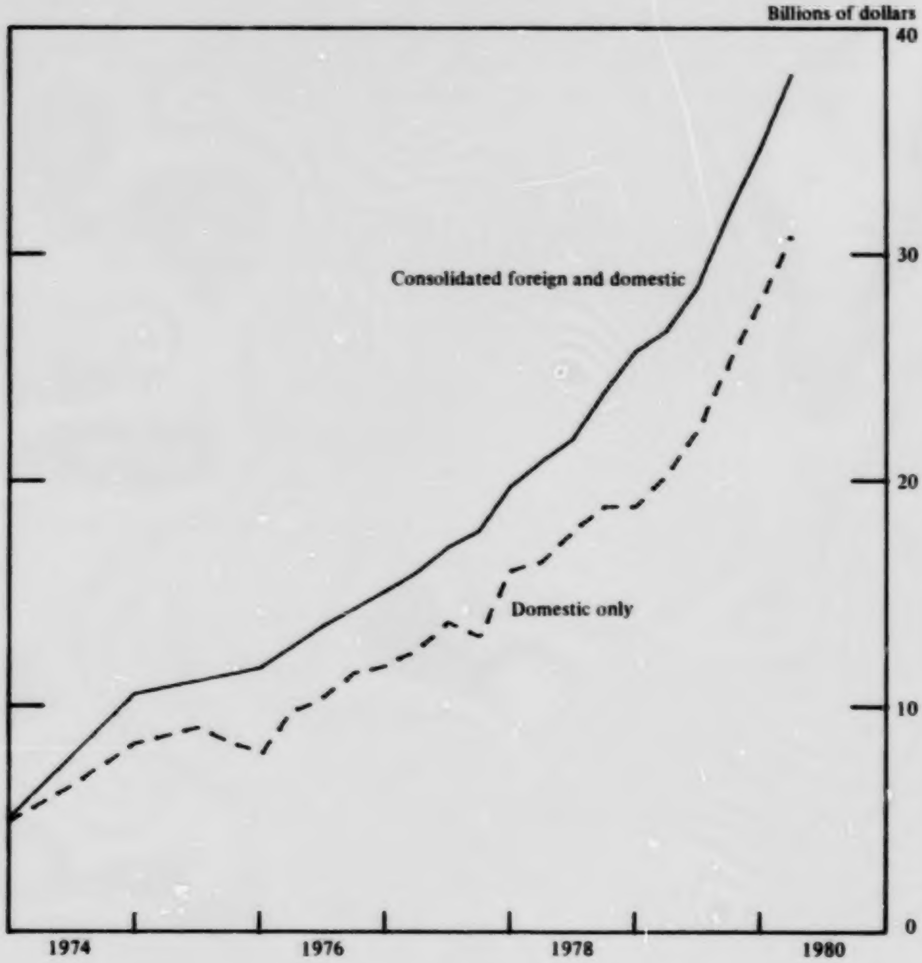
12. For example, many countries, including most Middle Eastern and South American countries, do not recognize expiration dates on letters of credit, so that the bank's commitment is open-ended. To avoid this situation, banks will try to issue such credits from their U.S. offices. Consequently, much of the recent growth in domestic standby letters of credit may represent a shift from foreign branches to U.S. offices that does not necessarily signal a change in the location of the beneficiaries.

2. Standby letters of credit at all insured commercial banks, 1974–80



Source. Reports of Condition.

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if the underlying transaction was international, used to be to avoid aggregate limits on foreign-branch liabilities on such instruments, but these limits have recently been eliminated.

The totals may show some double-counting of risks. If several banks participate in a standby letter of credit, the principal issuing bank may be liable for the entire amount, even though the other banks are also liable for part of it. This means that the lead bank is liable for its share in the participation, plus the share of any other participant that defaults on its obligation. Even though this secondary liability is much less significant than the primary one, the lead bank currently is required to report the entire amount of the letter of credit. Because the other participants will also report their shares, the total risk is overstated. The overstatement is relatively small, however; data on participations, collected for the first time on the December 1978 call report, revealed that they constitute less than 5 percent of the total standby letters of credit outstanding.

There are several reasons for the continued rapid growth in the use of standby letters of credit. The instrument was first introduced in the 1950s, but its spread has been delayed both by legal barriers and by public unfamiliarity with it. Domestic construction projects often required the use of surety bonds, while most projects abroad used bank guarantees that U.S. banks were not allowed to issue until 1963. Over time, the banks have gradually picked up more of this business, lobbying where necessary for changes in laws to permit standby letters of credit in place of surety bonds and foreign bank guarantees. Parties who require performance guarantees are becoming more familiar with some of the advantages to the beneficiary under a letter of credit and more likely to demand one. At the same time, the party whose performance is to be guaranteed may prefer a letter of credit because the fee is often lower than the charge for a surety bond. This process of increasing legal and popular accceptance seems likely to continue, at the expense of the surety industry.

Data on standby letters of credit issued by banks with assets over $1 billion and under $1 billion are shown in table 1; table 2 lists the top 25 issuers of this instrument. Both tables reveal that, on average, large banks are the largest issuers, not only in absolute terms but also relative to their size. Banks

1. Standby letters of credit at insured commercial banks, 1973-80

	December							
Size of bank and item	1973	1974	1975	1976	1977	1978	1979	March 1980
Banks with assets over $1 billion								
SLCs outstanding (millions of dollars)	4,199	9,565	10,655	13,610	17,903	23,410	31,676	34,856
Number of banks with SLCs	89	114	114	125	144	161	169	171
Number of banks	104	115	117	127	145	163	173	173
Banks with assets under $1 billion								
SLCs outstanding (millions of dollars)	833	1,004	1,051	1,434	1,804	2,286	3,042	3,075
Number of banks with SLCs	1,007	1,738	1,978	2,816	3,378	4,112	4,709	4,820
Number of banks	13,871	14,113	14,267	14,284	14,267	14,236	14,197	14,228

Source. Consolidated foreign and domestic reports of condition.

with assets of more than $1 billion account for more than 90 percent of the total standby letters of credit outstanding for all banks, and Citibank alone, the largest issuer, accounts for about 25 percent of the total. Several things account for the dominance by large banks. First, the beneficiary must have confidence that the bank will be able to pay up, and large banks in general are considered more reliable than small banks. 13/ Second, large banks have developed an expertise in dealing with letters of credit in their international operations that most small banks lack. Third, some of the standby letters of credit involve extremely large amounts, especially those used in connection with international construction projects. Only large banks have the capacity to issue such credits by themselves without violating their lending limits to one borrower.

Tables 3 and 4 show the other side of this picture. While the vast majority of standby letters of credit outstanding are accounted for by the very largest banks, over one-half of all banks issuing standby letters of credit have less than $50 million in total assets, and most of those banks with high levels of standbys in relation to total assets are quite small. These instruments thus have the potential to cause problems for small banks as well as large ones.

A one-time survey, conducted in Spring 1979 by the Federal Reserve, reported on the type of contract underlying $21 billion of standby letters of credit at 28 banks. The results of the survey are summarized in table 5.

There was a striking difference between standby letters of credit supporting transactions abroad and those supporting domestic transactions. Of the more than $11 billion worth of standby letters of credit supporting transactions abroad, about one-half was issued in connection with construction projects, and a further 23 percent in connection with other nonfinancial contracts, leaving only 30 percent supporting financial contracts. Of the nearly $10 billion worth of standby letters of credit supporting domestic transactions, over three-quarters supported financial transactions, and this concentration was especially pronounced among the largest banks in the sample. Only 8

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13. Nevertheless, when a large bank runs into trouble, the demand for its standby letters of credit falls drastically. Those outstanding at Franklin National Bank, for example, showed a drop of more than one-third between December 1973 and June 1974, when its difficulties became public. Much of the remaining two-thirds probably was issued before the bank's problems were known.

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2. Twenty-five largest issuers of standby letters of credit, March 31, 1980

Millions of dollars except as noted

Bank and state	Charter 1/	SLCs outstanding	Total assets	SLCs as percent of total assets
Citibank (NY)	NB	9,425	98,509	9.6
Chase Manhattan Bank (NY)	NB	3,089	66,915	4.6
Chemical Bank (NY)	SM	2,476	39,215	6.3
Bank of America (CA)	NB	2,274	101,529	2.2
Morgan Guaranty (NY)	SM	2,110	46,819	4.5
Continental Illinois (IL)	NB	1,990	36,590	5.4
Bankers Trust Company (NY)	SM	1,887	28,072	6.7
Manufacturers Hanover (NY)	SM	1,750	45,693	3.8
First National Bank of Chicago (IL)	NB	1,107	28,717	3.9
Security Pacific National Bank (CA)	NB	715	24,556	2.9
Irving Trust Company (NY)	SM	482	15,138	3.2
Crocker National Bank (CA)	NB	433	16,439	2.6
United California Bank (CA)	SM	381	14,924	2.6
First National Bank in Dallas (TX)	NB	295	7,977	3.7
Wells Fargo Bank (CA)	NB	277	19,733	1.4
First National Bank of Boston (MA)	NB	270	13,577	2.0
Marine Midland Bank (NY)	NB	255	16,640	1.5
Republic National Bank of Dallas (TX)	NB	239	8,003	3.0
Harris Trust & Savings Bank (IL)	SM	231	6,957	3.3
European American Bank and Trust (NY)	SM	210	4,351	4.8
Mellon Bank (PA)	NB	187	13,926	1.3
Northwestern National Bank of Minneapolis (MN)	NB	184	3,792	4.8
Texas Commerce Bank (TX)	NB	157	5,447	2.9
First City National Bank of Houston (TX)	NB	143	6,568	2.2
First National Bank of St. Paul (MN)	NB	124	2,693	4.7

1. NB = national bank; SM = state member bank; NM = nonmember bank.

Source. Consolidated foreign and domestic reports of condition.

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3. Standby letters of credit by type of charter and size of consolidated assets, March 31, 1980

Type of charter and item	Total	Consolidated assets (millions of dollars) Less than 50	50 to 500	500 to 1,000	1,000 to 5,000	Over 5,000
National banks						
Number of banks with SLCs	1,899	769	935	81	89	25
Amount of SLCs outstanding (millions of dollars)	25,397	95	853	542	2,315	21,592
State member banks						
Number of banks with SLCs	326	146	127	20	23	10
Amount of SLCs outstanding (millions of dollars)	10,798	19	164	142	806	9,668
Nonmember banks						
Number of banks with SLCs	2,766	1,733	968	41	24	0
Amount of SLCs outstanding (millions of dollars)	1,736	222	819	221	475	--

4. Banks with standby letters of credit over 5 percent of consolidated assets, March 31, 1980

Millions of dollars except as noted

Bank and state	Charter 1/	SLCs out-standing	Total assets	SLCs as percent of total assets
First Alabama Bank of Mobile City (AL)	NM	4.0	25.0	16.1
Western Bank (TX)	NM	30.6	258.9	11.8
First National Bank of Abilene (TX)	NB	28.4	268.0	10.6
Citibank (NY)	NB	9,424.6	98,508.6	9.6
State Bank of Frost (MN)	NM	.4	3.7	9.5
Commercial State Bank (GA)	NM	1.7	19.1	8.9
Community National Bank (WI)	NB	.2	2.5	8.9
Marathon State Bank (WI)	NM	2.3	25.5	8.8
Bessemer Trust Company (NY)	NB	.7	10.3	7.1
Bankers Trust Company (NY)	SM	1,887.0	28,072.2	6.7
Chemical Bank (NY)	SM	2,476.1	39,215.2	6.3
Republic Bank of San Antonio (TX)	NM	.4	6.9	5.8
Brenton National Bank of South Des Moines (IA)	NB	2.0	35.2	5.8
Channelview Bank (TX)	NM	3.5	61.6	5.6
Banco Di Roma (IL)	NM	8.0	144.9	5.6
Continental Illinois (IL)	NB	1,990.1	36,590.4	5.4
Allied Bank of Texas (TX)	NM	59.2	1,120.3	5.3
National Bank in North Kansas City (MO)	NB	3.1	59.9	5.2
Northwest Bank and Trust (TX)	NM	5.4	103.7	5.2
Interstate Bank of St. Peters (MO)	NM	.2	3.9	5.1
California Overseas Bank (CA)	NM	7.5	147.1	5.1
Missouri State Bank and Trust (MO)	NM	1.2	22.8	5.1
Commercial Bank of San Francisco (CA)	NM	2.3	44.9	5.0
Union Bank & Trust Company (NE)	NM	2.2	43.9	5.0

1. NB = national bank; SM = state member bank; NM = nonmember bank.

Source. Consolidated foreign and domestic reports of condition.

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5. Standby letters of credit, by use and collateral

Millions of dollars

Type of underlying contract and purpose of letter of credit	U.S. beneficiary		Non-U.S. beneficiary	
	Amount outstanding	Collateral or indemnification	Amount outstanding	Collateral or indemnification
Nonfinancial	2,344	208	8,304	1,643
To ensure contract performance associated with construction projects	759	57	5,676	1,268
To ensure merchandise delivery	456	41	1,621	257
Other nonfinancial	1,129	110	1,007	119
Financial	7,362	1,766	3,376	458
To back commercial paper	1,102	286	98	7
To back other loans	1,873	289	1,904	249
To ensure performance on options or futures contracts	1,077	120	174	28
Other financial	3,310	1,072	1,200	174
Total[1]	9,706	1,974	11,680	2,101

1. Details may not add totals because of rounding.

Source. Federal Reserve Bulletin, vol. 65 (September 1979), p. 718.

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percent were issued in connection with construction projects; a further 16 percent supported other nonfinancial contracts.

Data on collateral and takedown experience were also gathered in this survey. They are discussed in the next section.

Data on documented discount notes were collected by the Federal Reserve Bank of New York between 1970 and 1978. The most reliable series comes from commercial paper dealers and firms that place paper directly, which reported monthly on documented discount notes until August 1974 and weekly thereafter. These amounts are given in chart 2. The initial decline is attributable to a dramatic decline in the use of documented discount notes by bank holding companies when these instruments were subjected to reserve requirements in 1970. Nonbank issues then rose rapidly, peaking in early 1974 at about $1 billion as economic growth started to falter. Following the spectacular failures of U.S. National and Franklin National in 1973 and 1974, investors became more sensitive to the credit risk of the bank guaranteeing the commercial paper. At the same time, many of the borrowing firms began to experience financial difficulties and replaced their documented discount notes by direct bank loans. (One example of this is the REIT industry, which is discussed further in the next section.)

Early fears that documented discount notes would continue to grow rapidly until they rivaled conventional forms of bank intermediation have not materialized, and the relative importance of this instrument in the commercial paper market has diminished rather than grown since 1974.

RISKS

Much of the recent concern over standby letters of credit comes from fears that they are inherently risky instruments that may result in bank failures. In part, these fears probably reflect the experience with U.S. National Bank of San Diego, which demonstrated how standby letters of credit could be used to avoid both the intent of loan limitations to individual borrowers and reporting requirements. These particular risks have largely been eliminated by regulatory changes inspired by the U.S.

National failure. However, there is continued concern that further legislative or regulatory moves may be needed. This section discusses how standby letters of credit may contribute in various ways to the risk of bank failure.

Some observers assert that standbys are inherently riskier than commercial letters of credit. They say, for example, that in the conventional letter of credit the bank pays on performance, whereas in the standby letter of credit it pays on nonperformance. 14/ This assertion suggests a far greater likelihood of loss under standbys than under ordinary commercial letters of credit. On closer inspection, however, the logic of this inference falls apart. Payment is made under an ordinary commercial letter of credit following performance by the beneficiary. But it is not the ability of the beneficiary to perform his obligations to the account party that determines the risk to the bank in either a commercial or a standby letter of credit. The key determinant of the risk to a bank in issuing any letter of credit, commercial or standby, is the ability of the account party to reimburse the bank for drafts paid under the letter of credit. The Spring 1979 survey on standby letters of credit collected some data on these risks. Drafts paid in 1978 amounted to just over 2 percent of the total value of standby letters of credit at the 28 banks in the sample. Of this amount, more than 98 percent was recovered immediately by the banks from their customers, leaving only about 0.03 percent of standby letters of credit as potential losses to the banks. Comparable data on commercial letters of credit are not available, but it is possible to compare banks' record of losses on standby letters of credit with their record on loans. During 1978, the same 28 banks charged off about 0.41 percent of their loans against reserves. 15/ This discrepancy in loss ratios perhaps is not surprising, because a customer's ability to repay a loan that is used, for example, for product development may depend on its finding buyers for the product, whereas the buyer of a

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14. See, for example, statement by Zises in Regulation of Standby Letters of Credit, p. 101.

15. This figure is before recoveries.

project requiring a standby letter of credit to serve as a performance bond is already under contract. The discrepancy is also consistent with anecdotal evidence on the pricing of standby letters of credit, which indicates that the fees on these instruments are often considerably lower than the mark-up of the loan rate above the cost of funds.

One factor that suggests that standbys may be riskier than conventional letters of credit is that the latter normally generate collateral automatically in the form of goods in storage or in transit, whereas the former may not be collateralized. In fact, collateral does not inevitably accompany a conventional letter of credit transaction. 16/ Even acceptances that are eligible for discount at a Federal Reserve Bank need not be collateralized if they result from import-export transactions; and even when title documents are required at the time of acceptance, no rule requires that collateral be maintained during the life of the acceptance. 17/ Thus it is not uncommon for acceptances arising from conventional letters of credit to be uncollateralized, nor for standby letters of credit to be collateralized. 18/ In either case, the bank is taking the same kind of credit risk it assumes when it makes a loan--namely, the risk that its customer will not be willing or able to fulfill its obligations to the bank; and in either case the bank may demand collateral, just as it may in a loan transaction. In the Spring 1979 survey of standby letters of credit, banks reported collateral amounting to about 20 percent of the value of all standby letters of credit outstanding (table 5). The smaller banks in the sample reported significantly higher levels of collateral (about 38 percent) than the larger banks (about 17 percent), which suggests that smaller banks may anticipate greater difficulties in collecting from their customers. Their report of paying out nearly 5 percent of the value of standby letters of credit in drafts, compared with 2 percent for the large banks, supports this inference.

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16. Bank credit-card transactions, for example, offer no specific collateral to protect the bank against default by the cardholder.

17. See Henry Harfield, Bank Credits and Acceptances, 5th ed. (Ronald Press, 1974), p. 167.

18. The collateral for either, of course, may be of dubious value if the account party is in trouble, because this trouble in some cases may be associated with a drop in the value of assets used in that business.

The case of documented discount notes is special, since comparatively large amounts of money are involved and, if the account party cannot repay the note holders, there is little reason to suppose that it can reimburse the bank. However, even in this situation, the bank may protect itself by requiring collateral or other types of indemnification. On average, the banks in the Spring 1979 survey required collateral or indemnifications amounting to 26 percent of standby letters of credit in support of commercial paper. These collateral requirements significantly alter the character of the overall transaction from the point of view of the borrower, since borrowing in the commercial paper market is normally unsecured. A major New York bank reported that it uses standby letters of credit for this purpose only to allow the U.S. subsidiaries of foreign corporations access to the U.S. commercial paper market; the agreement allows the bank to seek reimbursement from the foreign corporation as well as from its subsidiary. The bank's claim against its customer, then, has a third-party guarantee, which may reduce the risk to minimal levels.

One reason for concern over documented discount notes is that they were used extensively by real estate investment trusts in the early 1970s. In 1974, soaring interest rates and declining economic growth hit the REITs hard, and they were no longer able to borrow in the commercial paper market, where they had previously obtained about one-quarter of their funds. Without the support of the banks, the REITs would not have been able to repay their commercial paper borrowing and there would have been widespread bankruptcies in the industry. As it was, there were no defaults on commercial paper, but the paper was replaced by direct bank loans. These loans have since been reduced substantially, but this reduction has been accomplished mostly through asset swaps, whereby the bank accepts REIT assets in exchange for debt forgiveness. Banks have realized significant losses on these swaps, and have written down the assets received in this way by about 22 percent on average at the time of the swap. The remaining loans to REITs may present further problems: a significant proportion of them have already been classified in bank examinations and may ultimately have to be written off.

Thus, although banks were not called on explicitly to honor their standby letters of credit, they extended loans of dubious quality to prevent a default by the REITs and have subsequently suffered considerable losses. The problem, however, did not arise only from the use of standby letters of credit; many REITs borrowed in the commercial paper market with ordinary back-up loan commitments, and the banks honored these commitments, too, with the same unfortunate consequences. And if the REITs had relied on bank loans all along, without entering the commercial paper market at all, the banks would be in basically the same situation today. 19/ The problem is simply that the REITs performed unexpectedly badly, and that, while most of the losses have been borne by the REIT equity holders, the banks have also suffered. With hindsight, it became plain that the REITs were bad credit risks and that any bank involvement with them would have been regretted. The use of standby letters of credit was neither a necessary nor a sufficient condition for this error in judgment.

One message from the REIT debacle is the need to avoid the potential for many simultaneous defaults; they can cause more serious problems than they would if they occurred separately over a larger period of time. The REITs were major users of documented discount notes, and their troubles hit the banks all at once. An even more serious problem could arise in connection with standby letters of credit used as performance bonds for foreign construction business. Not only is the potential liability of U.S. banks under such instruments much higher than it was under the documented discount notes issued by REITs, but also the notes are highly concentrated in the Middle East, where political and military confrontations always threaten contract performance. The current situation in Iran has demonstrated this danger, although so far it has not led to any serious problems for the banks that have issued standby letters of credit there. The danger is mitigated by two factors. First, much of the construction in the Middle East is being carried out by giant U.S. corporations with the highest credit standings. The guarantees or standby letters of credit that they are required by local law to post may represent little or no risk to the issuing banks even in face of numerous

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19. Indeed, bankers criticized the REITs in the beginning for using commercial paper rather than bank loans. See "REITs Told Not to Rely on Commercial Paper," American Banker, vol. 137 (October 6, 1972), p. 1.

demands for payment. 20/ Second, a major disturbance in the area could free the bank from its obligation to honor the letter of credit on the grounds that the beneficiary had ceased to exist. 21/ Furthermore, all of these dangers are as much inherent in direct bank lending as in the issuance of standby letters of credit.

Insurance companies often demand standby letters of credit in order to indemnify themselves against losses they might sustain in connection with surety bonds posted on behalf of the bank's customer. In such a case, the insurance company seems to be a useless middleman, serving as a conduit for the protection provided by the bank to the beneficiary. As mentioned before, this practice may be dictated by legal barriers to the direct use of standby letters of credit. For example, in order not to be classified as an illegal guarantee, the standby letter of credit must have an expiration date. Surety bonds typically do not. Therefore, the surety will demand an automatic extension clause, which provides that, if the bank should decline to renew the credit at expiration, the surety may draw out the entire amount of the credit and keep the funds in escrow as long as the bond is in force. Thus the account party may suddenly be required to provide reimbursement for this draft even though no act of default is alleged, and may have trouble providing the money without bank assistance. This kind of clause, then, may effectively expose the bank to an open-ended risk, despite regulatory efforts to prohibit such situations.

Standby letters of credit may be issued in a wide variety of situations involving all kinds of risks, great and small, to the issuing bank. The same, of course, is true of direct bank lending. A bank's comparative advantage lies in knowing its customers as a result of credit investigation and past experience

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20. A number of large U.S. corporations (including American Telephone & Telegraph Company, General Telephone & Electronics Corporation, United Technologies Corporation, and Pan American World Airways, Inc.) have recently sought injunctions to prevent their banks from making payment on standby letters of credit with Iranian beneficiaries (mostly Iranian banks). The banks are confident that they can recover any amounts paid under the letters of credit from their customers and hence have opposed the injunctions.

21. For example, standby letters of credit in favor of the government of South Vietnam became worthless after the Communist takeover.

in dealing with them. This knowledge then can be "rented out" to others through letters of credit, by which the bank agrees to accept the risk that its customers will not honor their obligations. This seems to be an efficient use of information, and little suggests that such activities will encourage excessive risks so long as banks and regulators treat them as extensions of credit, subject to the same risks and limitations as direct loans.

REGULATORY HISTORY

Banks require a special charter, either from the federal or a state government, and their activities are limited by that charter. Federal chartering of banks dates back to the National Bank Act of 1864, which authorizes a National Bank

> to exercise by its board of directors or duly authorized officers or agents, subject to law, all such incidental powers as shall be necessary to carry on the business of banking; by discounting and negotiating promissory notes, drafts, bills of exchange, and other evidence of debt; by receiving deposits; by buying and selling exchange, coin and bullion; by loaning money on personal security; and by obtaining, issuing and circulating notes according to the provision of this title. [emphasis supplied] 22/

This list includes neither the explicit power to issue letters of credit nor the power to guarantee other people's debts, and so authority for them must be sought in the "incidental powers" clause. There has never been any real doubt that the issuance of letters of credit and acceptance of drafts fall under this heading, and the Comptroller of the Currency has ruled that way. 23/ The issuance of guarantees, however, has been ruled outside the normal scope of banking activities, and so national banks may not normally undertake it. 24/ Two exceptions to this rule are recognized: when the

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22. See 12 U.S.C. 24, Seventh.

23. See the Comptroller's Interpretive Rulings 7.7420, 7.7016.

24. Banking charters vary from state to state. Most states either explicitly or implicitly prohibit banks from issuing guarantees, although a few explicitly permit it.

bank by making the guarantee is protecting an interest it already has; and when the bank has a segregated deposit equal to its maximum liability under the guarantee. 25/ Foreign branches and subsidiaries of U.S. banks have special privileges denied their domestic offices. Beginning in 1919, with passage of the Edge Act, subsidiaries chartered under the act could issue guarantees in countries in which the practice is considered part of normal banking business. This privilege was not available at first to foreign branches of U.S. banks, which were subject to all the restrictions governing their U.S. offices, including the prohibition against offering guarantees. In 1962, however, new legislation permitted foreign branches of national banks to issue guarantees in countries where this is a normal banking practice, up to 50 percent of their capital and surplus; these guarantees were included under the 10 percent lending limit to an individual customer. While these limits were being imposed on foreign branches, similar limits were extended to the Edge Act subsidiaries. Regulation K was therefore amended to limit the unsecured guarantees that an Edge subsidiary could issue to 50 percent of the subsidiary's capital and surplus and to include them with other customer liabilities subject to the 10 percent limit to an individual customer. Since the regulations governing these activities permit banks to "guarantee customers' debts or otherwise agree for their benefit to make payments on the occurrence of readily ascertainable events," standby letters of credit were included under these limitations. This inclusion created an anomaly: the supposedly expanded powers of foreign branches and subsidiaries to issue guarantees were in fact subject to limits that did not apply to the ability of banks' U.S. offices to issue standby letters of credit. This anomaly was finally eliminated with the issuance of a restructured Regulation K in June 1979, which freed both Edge subsidiaries and foreign branches of U.S. banks from the limit of 50 percent of capital.

On occasion, banks have been unwilling to pay under a standby letter of credit--for example, after a customer has declared bankruptcy. One defense for nonpayment has been the claim that standby letters of credit are in fact guarantees and therefore ultra vires--that is, beyond the powers of banks to issue. In 1973, this defense was denied by the Fifth Circuit Court of Appeals, and the legitimacy of bank standby letters of credit was affirmed. 26/

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25. See the Comptroller's Interpretive Ruling 7.7010.

26. Barclays Bank D.C.O. v. Mercantile National Bank, 481 F. 2d 1224 (5th Circuit, 1973).

The demise of U.S. National Bank of San Deigo in 1973 made it clear that standby letters of credit could be used to avoid certain regulations and disclosure requirements and that this immunity could encourage imprudent policies. Reporting requirements were amended, therefore, to require all banks to disclose, beginning in December 1973, the amount of standby letters of credit outstanding on their report of condition as a memorandum item, and in a footnote to their annual reports. In 1974, the Federal Reserve Board amended Regulation H to include a section on banking practices for state member banks. 27/ This required standby letters of credit and ineligible acceptances to be included with other extensions of credit for the purpose of state-imposed limits on loans to individual borrowers; it also required them to be subjected to the same credit analysis as ordinary loans. Similar regulations were established by the Comptroller of the Currency and the Federal Deposit Insurance Corporation. Also since 1974, bank examiners have been instructed to treat standby letters of credit as loans for purposes of classification and of determining bank capital adequacy.

The increasing use of standby letters of credit in the early 1970s, combined with the U.S. National failure, has caused some concern in the Congress. In 1974, 1975, and 1977, three similar bills were introduced into the Senate to regulate standbys. 28/ Though differing in details, these bills basically attempted to do five things: (1) to make standby letters of credit subject to reserves; (2) to place a limit on the aggregate amount that a bank may issue, based on its capital; (3) to include them among extensions of credit to a single individual that for national banks are subject to the individual-borrower limit of 10 percent of capital and surplus 29/ and to extend this limit to cover all state member banks; (4) in determining the individual borrower's limit, to include obligations under standby letters of credit of "dummy" corporations that are set up to lease property to a user as an obligation of the user; and (5) to require full disclosure on balance sheets. The Federal Reserve, along with the other banking agencies, opposed the bills in hearings, and they have failed to become law. 30/ The principal

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27. Regulation H, section 208.8.

28. S. 3949 (in 1974), S. 2347 (in 1975), and Title VI of S. 71 (in 1977).

29. 12 U.S.C. 84.

30. See letter from Chairman Arthur F. Burns to Senator William Proxmire, in Regulation of Standby Letters of Credit, p. 9.

arguments against these bills were (1) that recent regulatory changes already required full disclosure of standby letters of credit and also required them to be treated as loans that are subject to the individual-borrower limit; (2) that documented discount notes, about which the sponsors of the bills appeared to be particularly concerned, had shown relatively sluggish growth; and (3) that the bills would restrict the ability of U.S. corporations to compete in foreign markets. The bills defined a standby letter of credit as "any undertaking to make or arrange a payment in the event another person fails to do so," a definition that, those opposing the bills feared, might apply to conventional letters of credit as well. The definition has other serious problems as well. In law, a letter of credit must stand apart from the underlying contract between the bank's customer and the beneficiary. This means that the condition for drawing under a letter of credit is always the presentation of documents (which may allege nonperformance by the bank's customer), never an actual failure to perform. In addition, the majority of standby letters of credit assure the performance of a nonfinancial obligation, such as the satisfactory completion of a construction project. It is unclear that this kind of assurance would be covered in the bills, because the letter of credit may not mention any financial obligation of the bank's customer.

The proposed aggregate limitation would also be extremely burdensome to some banks. Table 6 shows the banks that would be over the limit proposed in S. 71. 31/ Citibank, for example, has outstanding standbys that are more than four times this limit, by a dollar amount of more than $7 billion. The disruption that would be caused by such a limit is difficult to justify. Standby letters of credit are not inherently riskier instruments than direct bank loans or commercial letters of credit, which are not subject to such a limit. In any case, the problem of risk is probably better handled through examination and the imposition of overall capital requirements.

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31. The limit, which is based on capital and surplus, would apply to the sum of ineligible acceptances and standby letters of credit. Because there are no data on the former, they have been ignored. The figures in table 6 were obtained by using the most generous interpretation of "surplus," including reserves for contingencies, bad-debt reserves (excluding deferred taxes), and capital notes and debentures, as well as paid-in capital and retained earnings. This is the Comptroller's definition for the purpose of 12 U.S.C. 84. (See Interpretative Ruling 7.1100.)

Reserves on standby letters of credit would also be extremely burdensome. The burden, as noted earlier, is likely to increase the annual cost of providing a standby letter of credit by anything from 1/2 percent to 1 percent of the value of the credit, which is likely to double the fee charged. At least, under these circumstances, U.S. banks would find it hard to compete with European banks and sureties to provide performance bonds for international construction. The improved macroeconomic control afforded by treating documented discount notes the same as direct bank lending is unlikely to be significant. Documented discount notes represent a small fraction (less than 5 percent) of total standby letters of credit, and are trivial in comparison with nonmember bank deposits, which are similarly not under the control of the Federal Reserve.

The consolidation of thinly capitalized "dummy" corporations with the firm for whose benefit they were originally established (the "principal firm") makes sense as a way of preventing firms from using dummy corporations to avoid loan limits to individual borrowers. The only drawback is regulatory complexity; in 1974 the Comptroller's staff opposed consolidation for that reason. A defect in the bills is that they provide for consolidating only the standby letters of credit and ineligible acceptances issued on behalf of dummy corporations with the other obligations of the principal firm to the bank. This procedure seems a half-hearted approach to the problem and would still permit direct loans to dummy corporations to be used to avoid limits on loans to individual customers.

Full balance-sheet disclosure would require standby letters of credit to be presented rather like acceptances, with the bank's liability to the beneficiary included as a liability and the customer's liability to the bank included as an asset. This practice is contrary to generally accepted accounting principles. 32/ If the realization of the contingency that the standby protects against is "reasonably probable," generally accepted accounting principles call for it to be disclosed, usually in the form of a footnote, although if there is a particularly strong likelihood of loss, a special reserve may be set up by debiting retained earnings. Neither of these methods changes the total of assets or liabilities. If the contingency is sufficiently improbable, no disclosure is required at all. Before the 1974 disclosure requirement, bank accountants

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32. See Glenn A. Welsch, Charles T. Zlatkovich, and John Arch White, Intermediate Accounting (Homewood, Ill.: Irwin, 1971), chap. 16.

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6. Banks with standby letters of credit in excess of 50 percent of capital and surplus, March 31, 1980

Bank and state	Charter 1/	SLCs in excess of proposed limit (millions of dollars)	Ratio of SLCs to proposed limit
Citibank (NY)	NB	7,202.9	4.2
First Alabama Bank of Mobile City (AL)	NM	2.8	3.3
First National Bank of Abilene (TX)	NB	19.4	3.1
Western Bank (TX)	NM	20.9	3.1
Bankers Trust Company (NY)	SM	1,262.5	3.0
Chemical Bank (NY)	SM	1,558.0	2.7
Continental Illinois (IL)	NB	1,196.6	2.5
State Bank of Frost (MN)	NM	.2	2.4
Marathon State Bank (WI)	NM	1.1	2.0
Morgan Guaranty Trust Co. (NY)	SM	1,037.9	2.0
Rockefeller Center Branch (NY)	NM	.1	1.9
First National Bank of Chicago (IL)	NB	504.5	1.8
Manufacturers Hanover Trust Co. (NY)	SM	794.9	1.8
Chase Manhattan Bank (NY)	NB	1,236.7	1.7
California Overseas Bank (CA)	NM	3.0	1.7
Brenton National Bank of South Des Moines (IA)	NB	.8	1.6
Irving Trust Company (NY)	SM	171.5	1.6
Northwestern National Bank (MN)	NB	63.8	1.5
Metropolitan Bank & Trust Co. (FL)	SM	3.5	1.4
Commercial State Bank (GA)	NM	.5	1.4
Allied Bank of Texas (TX)	NM	17.2	1.4
Channelview Bank (TX)	NM	.9	1.4
Northwest Bank & Trust (TX)	NM	1.4	1.4
Banco Di Roma (IL)	NM	2.1	1.4
First National Bank of St. Paul (MN)	NB	29.3	1.3
European-American Bank & Trust (NY)	SM	44.7	1.3

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Morton Grove Bank (IL)	NM	.2	1.3
Harris Trust & Savings Bank (IL)	SM	46.4	1.3
J. Henry Schroder Bank & Trust (NY)	SM	12.3	1.2
National Bank in North Kansas City (MO)	NB	.6	1.2
Commercial Bank of San Francisco (CA)	NM	.4	1.2
Bank of Hemet (CA)	NM	.4	1.2
Bank of the Southwest (KS)	NM	.1	1.2
Executive Bank of Schmidt & Koster (KS)	NM	.2	1.1
Security Pacific National Bank (CA)	NB	85.8	1.1
First Security Bank of Missoula (MT)	SM	.1	1.1
Midwest National Bank (IN)	NB	.1	1.1
First National Bank of Minneapolis (MN)	NB	12.0	1.1
First National Bank of Denver (CO)	NB	4.6	1.1
Bank of America (CA)	NB	156.6	1.1
Valley Bank of Nevada (NV)	SM	2.3	1.1
Union Bank & Trust Co. (NE)	NM	.1	1.1
Capital City State Bank (UT)	NM	.03	1.1
Missouri State Bank & Trust Co. (MO)	NM	.1	1.1
First National Bank in Dallas (TX)	NB	13.9	1.0
Bank of Miami (FL)	NM	.4	1.0
First National Bank of Cape Girardeau (MO)	NB	.1	1.0
Citizens National Bank of Somerset (KY)	NB	.1	1.0
Commerce Union Bank (TN)	SM	.5	1.0
Total		15,514.63	

1. Capital and surplus includes paid-in common stock, preferred stock, retained earnings, reserves for contingencies and other capital reserves, bad-debt reserves, and capital notes and debentures.

2. NB = national bank; SM = state member bank; NM = nonmember bank.

Source. Consolidated foreign and domestic reports of condition.

followed this rule and rarely if ever reported standby letters of credit on the balance sheet.

Reporting standby letters of credit in the main body of the balance sheet would be a further deviation from generally accepted accounting principles. Regulators have, however, required balance-sheet presentation in other cases contrary to generally accepted accounting principles. One example is a bank's sale of a note or loan from its portfolio to raise money. Such a sale is usually made "with recourse"--that is, if the debtor does not pay up when the note is due, the bank is liable to the holder of the note. In a nonbanking setting, accountants treat this transaction by reducing the amount of the asset "notes receivable," usually with a notation that reveals the amount sold and therefore the firm's secondary liability. The bank regulatory agencies, however, require banks to treat such sales as loans from the purchaser, and to retain the notes on its balance sheet as an asset. This situation closely resembles that in which the bank issues a standby letter of credit to enable its customer to borrow from another party; thus consistency seems to demand treating standbys the same way. On the other hand, the same argument would imply that commercial letters of credit should be treated in that way, too, which has not been called for; and loan commitments likewise represent a contingent obligation of the bank that may have the same potential for loss as a standby letter of credit. Singling out standby letters of credit for special treatment would merely create new inconsistencies and inequities. A better argument might be made for reporting all such contingent obligations, including endorsements, all letters of credit, futures and forward contracts, and loan commitments, in the same manner, either on the main body of the balance sheet or on a separate schedule.

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THE REGULATION OF BANK TRADING IN FUTURES AND FORWARD MARKETS

Brian Charles Gendreau

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THE REGULATION OF BANK TRADING IN FUTURES AND FORWARD MARKETS

Markets have developed in recent years that involve the buying and selling of contracts for the future delivery or receipt of securities. However, the benefits that are realized from these activities are not without risks and associated costs. The benefits, risks and costs of buying and selling contracts for future delivery or receipt are discussed in this study.

Interest rate futures, which are contracts made through organized exchanges, are agreements to buy or to sell securities at stated prices on specified future dates. Futures contracts for the delivery of five kinds of underlying securities (90-day Treasury bills, securities guaranteed by the Government National Mortgage Association (GNMA), Treasury bonds, and one-year Treasury bills) are offered on one New York and two Chicago commodities exchanges. Forward contracts are similar to futures, except that they are not traded on organized exchanges, do not have standard terms, and in general do not require margin. Standbys, which are put options on government securities, are contracts giving the holder the right to sell those securities at a stated price within a specified period of time.

Though preliminary investigations indicate that participation in futures and forward markets is not widespread in commercial banking, some banks are intensively involved in these markets. As of December 1978, total outstanding futures and forward positions appear to be in excess of $13 billion, and some large banks are dealers in GNMA forwards. All of the federal financial institution regulatory agencies have uncovered supervisory problems involving futures and forward contracts at smaller banks.

Futures and forward contracts are not the only way that banks can hedge or assume exposure to a large degree of interest rate risk. The same amount of risk can be created with spot market transactions and through off-balance-sheet commitments. Futures and forwards, however, allow risk to be transferred efficiently and at low cost, increasing both benefits and potential costs relative to comparable spot positions and off-balance-sheet commitments.

Banks trade in futures and forwards chiefly because of their benefits in hedging. Futures facilitate the reallocation of risk to those who may be more willing to bear it (speculators). To the extent that banks use futures and forwards to reduce interest rate risk, an increase in bank intermediation (lending) and a reduction in risk premiums in loan rates may result.

The level and stability of the flow of funds to the housing market may be improved if GNMA futures and forward markets allow efficient hedging of mortgage inventories, and hence reduce the risk of mortgage lending. Because futures are traded on organized exchanges, they may be a particularly attractive mechanism for risk transfer: the costs of searching for the opposite party to a transaction are reduced, and credit risk is minimized in that transactions are ensured by the exchanges and subject to trading standards. Finally, to the extent that futures provide costless information to society and reduce random price variability, bank trading in futures may contribute to market efficiency.

The costs of bank trading in futures and forward markets are principally those associated with the potential threat to bank soundness. Because futures contracts can be made upon the payment of a margin deposit equal to a small fraction of the face value of the underlying securities, and forward contracts generally may be made without margin payments, banks are able to expose themselves to interest rate risk at low cost. No borrowing costs need be incurred in acquiring exposure to risk equivalent to that involved in an alternative spot securities position or short sale. The low cost and ease of futures and forward trading may facilitate risk taking, and excessively risky trading may result in bank insolvency, market disruption, and a suspension of services to customers.

The Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, and the Comptroller of the Currency have issued a joint policy statement on bank trading in futures, forward, and standby contracts for government securities. This policy statement (appendix A) sets forth precautionary rules to ensure that bank contract trading is controlled by bank directors, establishes accounting procedures for contracts, and requires disclosure in financial reports to investors of contract positions that materially affect bank risk. 1/ The three regulatory agencies stated their intention to monitor closely bank contract activity and to consider additional regulation should the guidelines in the policy statement prove

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1. The Federal Reserve Board has also issued a policy statement stating that bank holding companies should not take speculative positions in futures, forwards, and standby contracts on U.S. government and agency securities. See Federal Reserve System, "Policy Statement Concerning Futures, Forward, and Standby Contracts on U.S. Government and Agency Securities," August 21, 1980.

inadequate. The Federal Home Loan Bank Board regulates futures and forward trading of savings and loans through mandatory limits on maximum contract positions. Participation by credit unions in contract markets is limited by the National Credit Union Administration to forward contracts made as delivery mechanisms.

Should experience with contract trading indicate that further regulation is necessary, several policy options are available:

1. Bank participation in markets for futures, forward, or standby contracts could be prohibited.
2. The nature and volume of bank contract trading might be regulated by setting margin requirements or otherwise altering the costs of contract trading.
3. Detailed guidelines on permissible combinations of futures, forward, and spot market transactions could be issued.
4. Regulators could set trading limits to place a ceiling on potential losses. The Federal Reserve staff believes that established trading limits are likely to be the most effective and least burdensome of these options.

Contracts can also be made for the future delivery for foreign exchange either (1) through forward contracts with the large international bank dealers in foreign exchange, or (2) by executing futures contracts for the delivery of one of six foreign currencies on the Chicago Mercantile Exchange. The publicity surrounding Franklin National Bank's foreign exchange losses notwithstanding, few supervisory problems have arisen in bank trading in forward and futures markets. Identification and control of individual bank futures-forward trading risk are easier in foreign exchange markets than in securities markets because foreign exchange risk is separable from the interest rate risk inherent in most bank operations, whereas the rate risk in securities contracts is not.

INTRODUCTION

Recently, regulators have begun paying attention to the involvement of financial intermediaries in contracts for the future delivery or receipt of securities. Several money center banks regularly execute futures contracts in their trading and portfolio operations, and securities dealers at several large banks make markets in forward security contracts. Supervisory problems stemming from inadvisable activity in markets for the future delivery of securities have arisen recently in smaller financial institutions, including small state member banks.

This paper explores, from a regulatory viewpoint, the benefits and costs of bank participation in markets for the future delivery of securities. It focuses on the banking firm, though macroeconomic effects will also be considered. First the study discusses the types, mechanics, and uses of contracts to make or accept delivery of securities in the future; appendix B provides detail and some examples of trading strategies. The risks to which banks may be exposed by making futures contracts are also examined. The benefits and costs thought to be associated with contracts for the future delivery of securities are evaluated, and a review of federal regulators' treatment of futures and forwards is provided. The study presents and evaluates alternative approaches to a supervisory policy for bank trading in futures and forward markets. The risks to bank soundness resulting from trading in futures and forwards for foreign exchange, which are analytically similar to contracts for the future delivery of securities, are discussed in appendix C.

THE MECHANICS AND USES OF MARKETS FOR THE FUTURE DELIVERY OF SECURITIES

Contracts in which parties may arrange promptly and with low transactions cost to take or make delivery of securities in the future at an agreed-upon price have twin origins. First, these contracts are extensions and developments of transactions that have been made on an ad hoc basis in financial markets for years. Short sales of securities, sales of securities under repurchase agreements, and the sale of Treasury securities on a "when issued" basis all involve the future delivery of securities and exposure to the risk of interest rate fluctuation. 2/ Second, they are an outgrowth of the markets for the future

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2. Short sales are the sales of borrowed securities. A market participant seeking to profit from an anticipated fall in the price of given securities may borrow those securities and sell them in the open market. If he can buy the securities back later at a lower price and return them to their owner he will have made a profit. A repurchase agreement is a form of borrowing in which securities are sold to the provider of funds under an agreement that they will be repurchased at a specified price on a specified future date. When issued (WI) securities are new issues of public debt that have been awarded to a buyer by the Treasury but have not yet been paid for or delivered. The WI period is typically 3 to 10 days but may be up to a month. Within that period buyers may sell the rights to the securities, in effect selling Tresury securities before paying for them.

delivery of commodities that have existed for centuries. Enough market participants desire to transfer or assume the risks of interest rate fluctuations that securities dealers and commodity exchanges have profited by creating over-the-counter and formal exchange markets for contracts for the future delivery or receipt of securities. The most common of these contracts are exchange-traded futures contracts, forward contracts, and standby contracts; each is discussed below.

Exchange-Traded Futures Contracts

Exchange-traded futures contracts are standard agreements, made through brokers on organized exchanges, to make or take delivery at some future date of certain securities with a specified face or par value. 3/ The price of the contract is determined by open auction, at which a contract purchase (long position) is a promise to accept delivery of securities and a contract sale (short position) is a promise to deliver securities in the future. Because futures contracts are not traded in secondary markets off the exchanges, the "price" of the futures contract refers to the agreed-upon price at which the underlying security will be exchanged at a future date. 4/ The futures contract is guaranteed by the exchange, so buyers and sellers are not concerned about the identity or creditworthiness of the party that takes the other side of the transaction (see appendix B for a discussion of the operations of the exchanges).

Financial futures trading began in October 1975, with the introduction of a contract for the delivery of collateralized depository receipts for GNMA-guaranteed, pooled, 8 percent mortgage certificates by the Chicago Board of Trade (CBT). Futures have since been offered on a variety of securities and by several other exchanges, the International Monetary Market of the Chicago Mercantile Exchange (CME) and the American Commodities Exchange (ACE), a subsidiary of the American Stock

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3. In the remainder of this paper, exchange-traded futures contracts will be referred to simply as futures contracts.

4. The Chicago exchanges have rules that prohibit the making of futures contracts off the exchange floors. These rules effectively require a maker of a futures contract to close out his position through the exchange itself rather than transfer his obligation (to buy or to sell in the future) to someone else off the exchange.

Exchange, which was subsequently acquired by the New York Futures Exchange (NYFE), a subsidiary of the New York Stock Exchange. Current financial futures, their basic specifications, and open interest are summarized in table 1. Additional contracts for the future delivery of Eurodollar certificates of deposit (CDs), thirty-day commercial paper, and four-year Treasury notes have been proposed by the Chicago exchanges. Virtually any security and range in the term structure may be a candidate for a futures contract, and further contract proposals by the exchanges seem likely. 5/ Trading on the exchanges is regulated by the Commodities Futures Trading Commission (CFTC). 6/

Futures contracts may be closed in two ways. First, the holder of a contract may elect to take or make delivery of the specified securities. Alternatively, a contract position may be closed by executing an offsetting contract. On the books of the exchanges' clearinghouse, the seller (buyer) terminates his obligation to make (accept) delivery of the securities by executing a contract to accept (make) delivery of the same securities. The combination of a purchase and sale of futures contract (or vice versa), in which no securities change hands, is known as a "round turn." Most futures contracts are closed by executing round turns. 7/ Hence, futures markets are properly viewed as mechanisms for transfer of risk and not as delivery markets.

Trading in interest rate futures is highly leveraged; generally an initial security deposit with the broker (or margin payment) of less than 2 percent of the contract value is required on the transaction. Trading gains or losses are credited or debited daily to customers' margin accounts in cash.

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5. Contract approval by the CFTC does not, however, guarantee market acceptance. Several commodity contracts have been terminated by exchanges in the past.

6. Trading in additional financial futures was approved by the CFTC on June 19, 1979: authorization was given to the CME to trade a four-year Treasury note contract, to the CBT to trade a four- to six-year Treasury note contract, and to the ACE and New York's Commodity Exchange, Inc. (COMEX), to trade ninety-day Treasury bill contracts.

7. In the six delivery months between December 1977 and March 1979 the percentage of actual deliveries to maximum open interest averaged 6 percent for ninety-day Treasury bill futures, 7.5 percent for GNMA (CDR) (collateralized depository receipt) futures, and 46 percent for Treasury bond futures.

1. Financial Futures Contracts [1]

Contract	Exchange and date begun	Face value (thousands of dollars)	Open interest on 5/14/81	
			Number of contracts	Billions of dollars
GNMA (CDR)[2]	CBT (10/75)	100	106,047	10.6
Treasury bonds	CBT (8/77)	100	235,539	23.5
Treasury bonds	NYFE (8/80)	100	6,033	.6
Treasury bills	CME (1/76)	1,000	30,248	30.2
Treasury bills	NYFE (8/80)	1,000	150	.15
2-year Treasury notes	COMEX (12/80)	100	784	.08

1. "Open interest" refers to the total number of contracts (with a long and short on each side) outstanding for each security.

2. CDR = collateralized depository receipt delivery. The other GNMA contracts traded on the CBT and ACE specify delivery of the actual GNMA certificates.

Market participants can use futures either to increase or to reduce the interest rate risk in their balance sheets (spot positions) and off-balance-sheet commitments. Speculation occurs when the market pariticipant takes risky positions in both the cash and the futures markets, seeking to profit from changes in interest rates. For example, if a bank has an essentially riskless cash market position (say, its asset and liability maturities are identical and it has no off-balance-sheet commitments, so that it is just as well off whether interest rates rise, fall, or remain unchanged), it may seek to profit from a belief that interest rates will rise relative to the rates implied in futures prices by taking a short futures position. [8] The bank will sell futures, promising to deliver securities in a future month. If interest rates rise and security prices fall beyond the contract price, the bank will realize a profit by purchasing spot securities at a price lower than the agreed-upon price in the futures contract and making delivery to fulfill the contract; alternatively, it may profit by buying an offsetting futures contract at a price lower than that in the original contract to sell. Should interest rates fall and prices of securities and futures rise above the price of the original short contract, the bank will suffer a loss. In a similar manner, given riskless cash market positions, long speculative positions can be taken by buying financial futures; a gain will be made if interest rates fall and securities prices rise above the price of the purchased contract.

Hedging with futures occurs when the market participant uses futures to reduce its cash market exposure to interest rate risk (reducing its expected return as well). Hedging involves taking positions in futures contracts that are opposite to their positions in the cash market, so that any loss on the cash market transaction due to adverse interest rate movements may be at least partially offset by a gain on the futures contracts. For example, a bank making a six-month loan from the proceeds of a ninety-day CD is exposed to a rise in borrowing costs on its CDs that may cause earnings to deteriorate (all other assets and liabilities assumed to be matched with respect to maturity). The bank may hedge by taking a short position in the Treasury bill futures market. If rates do rise, the increased costs of the new CDs will likely be offset by a gain on the short futures position. If rates fall, the bank will likely lose on the futures position but show a decline in its borrowing costs.

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[8] "Cash market" transactions in this paper include both spot market transactions and nonfutures off-balance-sheet commitments.

In practice the gains or losses on futures contracts in a hedge will seldom exactly offset the losses or gains on the cash market transactions. First, because the correlation between the prices of futures and the prices of the financial instrument being hedged is generally imperfect, the prices of futures will usually differ somewhat from the market prices of the cash market instruments, by an amount termed the basis. Indeed, a loss on both the futures and the cash position in a hedge is possible though statistically unlikely. Basis risk (the risk that gains and losses on futures and cash positions on hedge will not be exactly offsetting), however, is usually small relative to the risk that may exist in unhedged positions. Second, a net gain or loss will result on a hedge if, tautologically, the exposed cash market position is not exactly covered by a futures position. Market participants typically do not cover 100 percent of their cash positions that are exposed to the risk of price fluctuation. Inexactly hedged transactions reduce risk, but profits on the transctions are still affected by interest rate movements.

Forward Contracts

Forward contracts are commitments for the forward placement or delayed delivery of securities--contracts in which an agreement is made to purchase or sell specified securities on a future date at a specified price. Forward contracts differ from futures principally in the institutional arrangements of their purchase and sale: Forward contracts are not traded on organized exchanges, and delivery or payment for the underlying securities is not guaranteed by an exchange. Terms are not standard, margin payments are generally not required, and the contracts can be terminated only by agreement of both parties to the transaction. The market for forward contracts is an over-the-counter market made by government securities dealers. Forward contracts are arranged by telephone, with written conformation following within a few days. The forward market appears to be large and efficient: trading volume appears to be high and price changes are rapid and small. [9]

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[9] Some commercial and mortgage bankers maintained that the GNMA forward market had less price volatility than the GNMA futures market. No data on GNMA forward trading are collected by any public or private organization.

Unlike futures contracts, forward contracts are quite often closed when the underlying securities are delivered. The forward market began as a market for the pricing of mortgages that were being pooled for delivery up to six months in the future; it was not intended primarily as a mechansim for the transfer of risk as in the futures market. Increasingly, forward contracts are being made that do not result in delivery; contracts are cancelled by the execution of an offsetting forward contract. No formal institutional mechanism exists, however, for "round turn" contract terminations like those of the organized futures market. If a bank enters into a forward contract to accept delivery of GNMA securities from a dealer in three months at a fixed price, the bank's long position can be terminated without delivery if it makes another contract to deliver the GNMA securities to the same dealer. 10/ Its long position in GNMA forwards could also be offset if the bank were to make a contract with a third party to deliver GNMA securities in three months. But since the transaction would be directly between parties and not through an organized exchange, the bank would have to take and make delivery of the securities or otherwise arrange for their transfer to the contracting parties.

Forward commitments are generally made for GNMA-guaranteed mortgage certificates and usually only for certificates whose issue has been announced. Since GNMA mortgages are typically pooled for delivery to investors with a lag of six months or less, GNMA forward commitments are rarely made for delivery more than half a year in the future.

U.S. Treasury securities that have been purchased at auctions may be traded on a "when-issued" basis prior to delivery. When-issued trading is in effect forward trading, though the WI period is short (usually one week or less) and WI trading does not occur in precisely the same markets as forward GNMA trading. Recently, one of the primary government securities dealers offered its customers contracts for the forward delivery of Treasury bills for the same delivery dates used for Treasury bill futures by the Chicago Mercantile Exchange, and other dealers or brokers are planning to establish markets in Treasury bill forward contracts.

Some money center banks are acting as dealers in forward contracts, buying and selling out of an inventory. In dealing in

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10. A bank that is a large participant in the GNMA forward market estimated that 55 to 60 percent of its forward contracts were terminated without the delivery of securities.

forward contracts, banks may be assuming roles similar to those all three kinds of participants play in the market for exchange-traded futures. They are a party to the transaction in that they agree to make or take delivery of the securities. They may act as a broker insofar as they arrange forward contracts for their customers. And they serve as an exchange in that they are the mechanism by which desires to accept and deliver securities in the future are matched. Unlike an organized futures exchange, however, a bank dealer may have net long or short exposure in forward contracts: no institutional constraint exists by which the number of contracts purchased must equal the number of contracts sold. Similarly the maturities of the bank's contracts purchased need not match those of its contracts sold.

Standby Contracts

Standby contracts are options on government securities, contracts in which one party agrees to purchase (sell) a specified amount of securities within a given time period at an agreed-upon price if the other party exercises its right to sell (purchase) them. 11/ Standbys giving the holder the right to sell securities at a specified price are termed puts or optional delivery contracts. Standby contracts in which the holder has the right to buy securities at the specified price are known as calls or optional purchase contracts.

Standby contracts are arranged between individual parties and do not involve trading on organized exchanges. 12/ A typical standby contract is a put in which a securities dealer will pay the contra party a fee for the privilege of delivering, at the dealer's discretion, securities at a fixed price before a specified date. If prices fall, the dealer may deliver the

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11. An option bestows the right to execute a stipulated financial transaction, unlike a futures or forward contract, in which the holder is obligated to carry out the transaction.

12. The Chicago Board of Options Exchange (CBOE) and American Stock Exchange (AMEX) submitted proposals to the Securities and Exchange Commission (SEC) in 1977 to begin trading in standardized options on U.S. Treasury and agency securities. The contracts are currently being traded on the CBOE.

securities at the contract price. The dealer has eliminated his exposure to the risk of a price decline with a standby contract while the contra party has become exposed to the possibility of losses from the future purchase or sale of securities in exchange for a generally small fee.

Standby contracts seem to have originated with mortgage bankers, who commonly arrange puts to limit their exposure to price-fluctuation risk on the loans they have made but not yet sold to outside investors. 13/ Standbys are analogous in risk and contractual arrangements to fixed-rate loan commitments. In making a fixed-rate loan commitment, the bank has agreed, in return for a fee, to stand ready to acquire debt (the loan to the customer) at a specified price on the customer's option. This commitment could be symmetrically hedged if the bank were to purchase a put option (standby), paying a fee to deliver debt to another party at the bank's option. 14/ Most standbys are written for GNMA-guaranteed, pooled mortgage certificates. Entering into a standby contract is classified as an improper securities practice by the Comptroller of the Currency and is prohibited for national banks. National banks may, however, act as agents in arranging standby contracts between customers. 15/

The Extent of Bank Pariticipation in Futures Markets

Preliminary information obtained by staffs of the Federal Reserve and the Commodities Futures Trading Commission indicates that, whereas bank participation in futures and forward markets is not widespread, some banks in all size classes are intensively

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13. Mortgage bankers seek to buy put options, giving them the right to deliver the GNMA-guaranteed mortgages they are producing at a specified price. The buyer of the put--who pays a fee to the seller--contracts to have the privilege of selling securities in the future.

14. Economists have argued that fixed-rate loan commitments should be priced as if they were put-option sales. Fractional take-downs of loan commitments, however, complicate such a pricing strategy.

15. U.S. Comptroller of the Currency, banking circular 79, supplement 1 (August 1, 1977).

involved in these markets. Though the data are from unrelated surveys and sometimes incomplete samples, indications are that fewer than 50 commercial banks are likely to be involved in futures markets at any point in time, and that the banks' share of financial futures markets is probably less than 10 percent. A March 30, 1979, survey of all holders of open positions in financial and foreign exchange futures by the CFTC found a maximum of 63 commercial banks holding futures on Treasury bills, Treasury bonds, and GNMA securities representing claims on a face value of 3.78 billion in underlying securities, about 4 percent of the face value of all outstanding financial futures on that date. 16/

Banks appear to execute a substantially greater volume of forward contracts--primarily GNMA--than of futures. Among the reasons given for preferring forwards to futures are the lower brokerage fees, lower or zero margin requirements, absence of daily trading limits, less basis risk (greater correlation between forward and underlying security prices), and deeper markets.

Several of the banks that serve as primary dealers in government securities are also dealers in GNMA forward contracts. 17/ They engage in heavy volume trading (ranging from $20 million to $90 million per day) of GNMA forwards, making markets in those contracts. None of the dealers contacted by Federal Reserve staff in connection with this or previous studies has had a large exposed forward position, though "unsettled" (open short plus open long) positions typically ranged between $170 million and $250 million. The responses of six dealer banks indicate that the total bank market for GNMA forwards is in excess of $4 billion.

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16. Naomi L. Jaffee and Ronald B. Hobson, "Survey of Interest-Rate Futures Markets" (CFTC, December 1979; processed). Positions were reported by contract type, with 24 banks holding $3.16 billion in face value of Treasury bill futures, 19 banks holding $186 million in face value of GNMA futures, and 14 banks holding $294 million in face value of Treasury bond futures. Because the same banks may have held positions in more than one type contract, 63 banks is a maximum figure.

17. As part of previous studies of future and forward trading by banks, Board staff interviewed two Philadelphia banks in December 1977, two New York banks in April 1978, and, with the Federal Reserve Bank of New York, conducted an informal telephone interview with five dealer banks on forward trading in December 1977. This discussion draws heavily upon those interviews.

Futures, forward, and standby positions at state member banks have been surveyed as part of the examination process since June 30, 1978. 18/ By May 18, 1979, completed questionnaires had been received from 628 of the 1,013 state member banks. Only 12 state member banks had participated in futures, forward, or standby trading in the recent past. 19/ These 12 banks are not from any single size class: 2 are money center banks and primary dealers in government securities, 4 are among the 30 largest U.S. banks by asset size, and the other 6 include several small institutions. Thus, about 1 percent of all state member banks appear to be active in futures and forward markets, a degree of participation comparable to that of other banks. As of March 1, 1979, 33 national banks (0.7 percent of all national banks) were authorized to trade interest rate futures. By year-end 1978, national banks had commitments to purchase $6,301 million securities and to sell $5,865 million in securities under futures, forward, and standby contracts. 20/ The 30 banks with futures positions on November 30, 1977, in the CFTC survey of financial futures ownership represented 0.2 percent of all commercial banks.

Inadvisably risky positions and trading abuses in futures and forward markets have been found in banks under the jurisdiction of all the federal bank regulatory agencies. The Office of the Comptroller of the Currency has responded to supervisory problems in futures and forward trading at more than 30 national banks. Problems in approximately 15 insured state nonmember banks have drawn FDIC attention. Four state member banks have required supervision as a result of imprudent forward and standby positions. These problems have, for the most part, developed in small banks and have usually involved

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18. "Preliminary Examiners' Questionnaire: Exchange Traded Interest Rate Futures Contracts, Forward Contracts, and Standby Contracts," prepared by Securities Regulation Section, Division of Supervision and Regulation, and the Financial Studies Section, Division of Research and Statistics, Federal Reserve Board, 1978.

19. Futures and forward activity at an additional state member bank has come to the attention of staff as a result of supervisory problems with the bank's forward trading before it was examined.

20. Since December 1978 aggregate data on off-balance-sheet contracts of national banks to purchase and sell securities have been collected by the OCC on Schedule J, "Contingencies Outstanding as of the Report Date," of the Report of Condition. No breakdown by contract type of maturity is provided by Schedule J.

excessively large GNMA forward and standby commitments relative to the banks' ability to absorb trading losses. The risky positions appear to have arisen because of poor management and director control, uninformed trading unauthorized trading, and, occasionally, unethical, or illegal sales practices by securities dealers. No commercial bank appears to have failed as a result of financial futures trading. The Basel, Switzerland, subsidiary of the United California Bank became insolvent in 1970 because of massive losses in cocoa futures trading; but the insolvency might not have occurred in the more stringent regulatory climate of the United States, where banks are not permitted to trade in commodities futures, and more comprehensive disclosure requirements are maintained.

BANK HEDGING AND SPECULATING IN FUTURES AND FORWARDS

Futures and forward contracts can reduce bank exposure to interest rate risk if used in hedging or vastly magnify such risk if used speculatively. Supervisory policy appears simple: regulators should encourage hedging and prohibit speculation. The difficulty is in distinguishing between the two.

Financial transactions traditionally have been considered hedged when the profits on those transactions are invariant to interest rate changes. By implication, transactions whose profitability is affected by future interest rate movements involve at least some speculation. This view, in which all financial activity is classified in a dichotomy between hedging and speculating, is unlikely to be useful in evaluating bank risk. Many futures and forward positions can be taken to reduce risk of unexpected interest rate movements. At the same time, the profitability of many routine bank operations in cash markets is affected by changes in interest rates. Financial institutions with inventories of financial assets that are exposed to the risk of loss from an unexpected increase in interest rates would be perfectly hedged if, other things being equal, they consistently took short futures or forward positions exactly equal to their inventory exposure. 21/ Few financial institutions, however, are likely to engage in this kind of hedging. Instead, they are likely to act on their expectations of what future interest rates will be when deciding how much

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21. Examples of financial institutions with such inventories include mortgage banks, which are exposed to increases in interest rates between the time they make mortgage loans and the time they package and sell those mortgages to investors, and banks or dealers with security holdings that are financed with short-term liabilities (such as repurchase agreements).

"forward cover" to obtain; that is, how large their futures or forward positions should be relative to their cash market positions. Depending upon expectations, they may choose to take (1) a futures position equal to a fraction of their inventory, (2) a short futures position that is greater than their inventory (an "overhedged"), (3) no futures or forward position whatsoever, or (4) a short position exactly equal to the size of their inventory. Only the last will be a perfect hedge; any other position involves at least some exposure to rate risk. Furthermore, to be perfectly hedged the financial institution would have to obtain always short futures or forward cover equal to the value of the exposed inventory. During any lapse in coverage the institution would be subject to interest rate risk. 22/

Similarly, many routine cash market transactions by banks require some forecasting of interest rate movements and exposure to interest rate risk. Decisions on the interest rate risk premiums in loan rates, the terms and quantities of fixed-rate loan commitments, the timing and amounts of security purchases and sales, and even the size of cash and balances due from banks all involve expectations about future interest rates. The profitability of those transactions will depend on how interest rates move relative to expectations. In their role as financial intermediaries, banks rarely experience a perfect match in asset and liability maturities, and so are exposed to interest rate risk. Clearly, some exposure to the risk of changes in interest rates by banks is necessary and desirable and, when controlled, is not speculative.

Bank futures and forward positions are perhaps best thought of not in terms of a hedging-speculating dichotomy, but instead as positions that reduce or add to bank risk given cash market positions. 23/ Though both extremely risky and almost riskless

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22. Hedging a fraction of an exposed inventory (including an improper fraction) or varying the coverage with expectations is known as selective hedging. Consistent, complete futures and forward coverage of exposed cash market positions is termed routine hedging.

23. Theorists have advocated abandoning the strict hedging-speculating dichotomy in favor of viewing futures positions as ways to maximize utility (or profit) subject to a risk-reduction constraint. Market participants are seen as adjusting their futures (and perhaps spot) positions to achieve the highest expected return consistent with acceptable risk. Because expected returns--based on expectations of interest rates--differ among market participants (including hedgers), so will their futures positions. See Jerome L. Stein, "The Simultaneous Determination of Spot and Futures Prices," American Economic Review, vol. 51 (December 1961), pp. 1012-1025, and Leland L. Johnson, "The Theory of Hedging and Speculation in Commodity Futures," Review of Economic Studies, vol. 27 (June 1960), pp. 139-51.

positions are possible, most combined futures and cash market positions of banks are likely to be neither clearly speculative nor perfectly hedged. Regulation may be more effective if it specifies acceptable levels of bank risk than if it attempts to define permissible classes of futures and forward positions. 24/

BENEFITS AND COSTS OF BANK TRADING IN FUTURES AND FORWARD MARKETS

Futures and forward contracts are not the only way that banks can reduce or increase their exposure to interest rate risk. Banks can hedge or take risky positions in spot markets and other off-balance-sheet contracts. Hence the benefits and costs of bank trading in futures and forwards are properly judged in relation to bank cash market alternatives.

Risk equivalent to that in virtually any futures or forward contract, long or short, can be created with a variety of spot market transactions and off-balance-sheet commitments. Repurchase agreements, short sales, when-issued trades, or the purchase of assets financed with liabilities of a different maturity all involve risks similar to those in futures and forward contracts. 25/ An acquisition of a 180-day Treasury bill financed through its sale under a 90-day repurchase agreement (RP), for example, creates risk almost identical to that involved in a long three-month Treasury bill futures contract. Each involves taking delivery of a 90-day Treasury bill at a predetermined price in three months, and each involves exposure to a rise in interest rates above that implied in the 90-day RP rate or three-month futures yield. Similarly, fixed-rate loan commitments are equivalent in risk to standby contract sales: each involves sales of an option, for a fee, to deliver debt to the bank at a fixed price for a specified time period.

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24. The enforcement of regulation in which futures and forward positions are permitted for banks if paired with appropriate cash market transactions as hedges may be difficult because such pairing is necessarily arbitrary. A futures position may seem to reduce risk when paired with one cash market position, yet add to risk when consideration is made of transactions occurring in other bank divisions or holding company subsidiaries, and vice versa.

25. Examiners permit banks to make short sales in their trading accounts for hedging purposes. Banks with government security-dealer departments sell short to accommodate their customers.

Futures and forwards differ importantly from most bank cash market transactions in that their interest rate risk can be transferred or assumed more efficiently and at a lower cost. Unlike many cash market and forward-like transactions, a future or forward contract imposes no borrowing costs. Risk can be assumed or transferred with futures upon the payment of a margin deposit equal to only a fraction of the face value of the securities underlying the contract; forward contracts generally do not involve margin payments and may be even less costly to execute than futures.

Futures contracts, because they are made through organized exchanges, may be a more efficient risk-transfer mechanism than forward contracts. Exchange trading reduces the costs of searching for the opposite party to a transaction that is to occur in the future, and reduces credit risk to market participants to the extent that the exchanges guarantee transactions and enforcement of trading rules. Forward contracts, in contrast, are usually arranged between individuals through dealers and involve exposure to the risk of insolvency on the part of the other party to the contract, the dealer, or both.

Benefits

The benefits to bank trading in futures and forwards are chiefly those associated with hedging. Futures and forwards allow risk to be reallocated to those who may be more willing to bear that risk (speculators) efficiently and at relatively low cost. 26/ Banks hedging with futures and forwards will then be free to allocate more of their resources to other operations, such as credit analysis and correspondent and payment services, that do not involve rate-fluctuation risk. 27/ Other things being equal, the reduction in risk of rate fluctuation should foster an increased supply of bank credit, a greater willingness to extend long-term credit, and a reduction in loan rates. In effect, elimination of some rate-fluctuation risk will in turn

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26. The purchaser of a contract sold by a bank, however, need not be a speculator. Someone seeking to hedge against the risk of a fall in interest rates may take the opposite side of a contract sold by a bank seeking to hedge a loan commitment (for example, a home builder who has entered into a firm commitment to borrow).

27. This assumes that resources devoted to management of interest rate risk can be reduced on net if that risk is managed with futures and forwards instead of spot market operations and (nonfutures and nonforward) off-balance-sheet arrangements.

allow banks to reduce the risk premiums in the interest rates they charge customers.

In addition, activity, in futures and forward markets may contribute to the stability and reduction of random fluctuations around equilibrium prices in spot markets. To the extent that those who have better information than the market on prospective financial events use futures markets to profit from that information, prices in those markets will convey costless information to society. Markets are efficient if all useful information affecting prices is incorporated rapidly, rather than slowly, into the current market price. In an inefficient market, anybody with information about future price movements could profit by taking a futures position (or a spot position). Profit opportunities would disappear only when current market prices are bid to convey the same information as futures prices. Futures prices, then, may serve as signals to enable spot market participants to adjust prices quickly to new information. [28] Better intertemporal allocations of resource may result if the information contained in futures prices is used in the production and inventory decisions of economic actors. In the bank trading in futures markets will contribute to this improvement in market efficiency.

Costs

The ultimate costs of bank trading in futures and forwards (other than the opportunity costs represented by the margin deposits on futures contracts and staff resources devoted to futures and forward trading) are principally those that may result if the trading leads to insolvency. The ease and low cost with which risk can be transferred beneficially away from banks may by the same token promote risk taking by banks. Regulators may be concerned that excessively risky futures or forward positions may lead to bank insolvency, and in turn market disruption, financial difficulties for creditors, and a suspension of services to customers. The novelty and complexity of futures and forward markets may also lead to inadvisable

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28. Slow market adjustment to new information would be reflected in a significant correlation between price movements in successive time periods. In a study of recent movements in GNMA spot prices, Kenneth Froewiss found that a serial correlation in percentage weekly changes in those prices disappeared after GNMA futures were introduced in 1975, and cautiously attributed this evidence of a more efficient spot market to the new GNMA futures. See Kenneth C. Froewiss, "GNMA Futures: Stabilizing or Destabilizing?" Federal Reserve Bank of San Francisco, Review (Spring 1978), pp. 20-29.

trading and facilitate attempts to defraud banks, though such problems are not unique to futures or forward trading.

To the extent that imprudent risk-taking is encouraged by reductions in the cost of assuming risk, supervisory problems would most likely arise with sales of standby contracts by which banks are paid for acquiring risk (that is, paid a fee, immediate income, for selling an option to deliver securities to the bank at some future time). Similarly, because forward contracts generally do not involve margin payments, they may be riskier than futures. Risk can be assumed at a lower cost with forwards than with futures, and the leverage possible on forward contracts is theoretically infinite.

FUTURES-FORWARD POLICIES OF FEDERAL REGULATORY AGENCIES

Each of the federal financial institution regulatory agencies at first responded differently to supervisory problems with contract trading in institutions under their jurisidiction, and the result was an eclectic pattern of regulations. Policy positions were changed frequently, and many of the changes were ad hoc responses to immediate problems. Comprehensive policies have now been formulated, and a uniform supervisory policy developed for all insured commercial banks. These policy stances are summarized below.

Federal Reserve Board, FDIC, and Comptroller of the Currency

Uniform guidelines for contract trading by insured commercial banks were formulated by an interagency task force and issued as a joint Federal Reserve-FDIC-Comptroller of the Currency policy statement on November 15, 1979 (appendix A). The guidelines specify that contract activity must be subject to formal internal controls; most important, trading limits must be established and reviewed by bank directors. 29/ Contract positions that materially affect bank risk are to be disclosed in financial reports to investors. One category of contract trading--the sale of standby contracts (put options) specifying the delivery of government securities to the bank with settlement

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29. Similar guidelines were enacted for bank holding companies. See "Policy Statement," August 21, 1980.

in excess of 150-days -- is identified as inappropriate for banks. (Supervisory authorities have found long-term standby contracts to be speculative and not closely related to banking business.)

The policy statement includes accounting rules designed to prevent abuses in reporting changes in contract values and standby fees in bank earnings. Formerly, banks could designate unprofitable futures positions as investment account hedges, deferring losses and amortizing them into the basis of spot investment securities, while designating profitable positions as trading account or general asset-libility hedges and recognizing gains immediately. Recognizing gains but deferring losses was held to be unacceptable. 30/ The guidelines specify deferral of standby fees (premiums received by banks for selling put options on government securities), thereby removing an incentive for banks to sell standby contracts for immediate improvement in an income statement.

The policy statement supersedes earlier agency supervisory stances, and relaxes the more restrictive policy of the Comptroller of the Currency. 31/ The agencies intend, however, to monitor bank contract trading closely and, if necessary, to consider more stringent regulation.

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30. Government policy has been to leave the determination of accounting standards to the accounting profession. However, no authoritative accounting rules for bank futures trading exist. The American Institute of Certified Public Accountants formed a task force to study the issue in November 1979.

31. The Comptroller of the Currency's Banking Circular 79 (November 2, 1976) and Banking Circular 79, supplement 1 (August 1, 1977) prohibited standby contract sales by national banks, required futures contracts to be paired with cash market transactions, and required OCC approval before the initiation of futures trading. These provisions were withdrawn in the joint policy statement and in Banking Circular 79 (revised), "National Bank Participation in the Financial Futures and Forward Placement Markets."

Federal Home Loan Bank Board

The FHLBB's regulation of forward trading of savings and loan institutions relies upon position limits to constrain risk. Regulations adopted May 17, 1979 stipulate that an institution's outstanding forward commitments to purchase securities may not exceed an amount equal to 10 percent of assets if net worth is less than 5 percent of assets, or 15 percent of assets if net worth is 5 percent or more of assets. No attempt is made to define permissible trades (hedges) in distinction from those considered excessively risky. [32]

Current regulations permit savings and loans to trade "mortgage market" futures (GNMA futures) within a limitation that gross long plus gross short futures positions do not exceed net worth. Futures positions at savings and loans must be directly matched to firm commitments or anticipated reinvestments of expected mortgage repayments over the forthcoming 12-month period--a pairing requirement not unlike that of the Office of the Comptroller of the Currency. [33]

National Credit Union Administration

The NCUA's stance on futures-forward trading is plainly restrictive. Under current rules, futures contracts and put options on government securities are not legal investments for federal credit unions. Forward contracts are permitted only as delivery mechanisms, and then only when an adequate funding capability exists. [34] (Adequate funding--whether a measure of liquidity or a projected cash flow--is undefined.) Under proposed regulations, futures would be allowed as hedging devices for mortgage pools being assembled before sale in the secondary market.

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[32] 12 C.F.R. 563. No reference to forward commitments to sell securities is made in the regulations.

[33] 12 C.F.R. 545. On May 1, 1981, the FHLBB proposed some revisions to these rules. The proposed changes include banning long positions completely, permitting short positions in Treasury securities contracts, and raising the position limit to 85 percent of assets.

[34] Release, NCUA, "Standby Commitments and Cash Forward Agreements," June 29, 1977.

OPTIONS FOR FURTHER REGULATION

Should experience with contract trading indicate that further regulation is necessary, several approaches are available:

1. Prohibit bank particiption in contract markets. This approach would be based on a judgment that the costs and threats to bank solvency that futures and forwards represent exceed the potential benefits that might flow from these financial innovations.

2. Confine futures and forward trading by banks to hedging (a policy initially adopted by the Office of the Comptroller of the Currency for national banks). An attempt would be made first to define and then to constrain bank activity to permissible transactions (hedges). The difficulty is in defining hedging in an operationally meaningful way. Rules requiring futures or forward positions to be matched or paired to specific cash market transactions are not binding on banks because the pairing choice is arbitrary. The pairing of any single cash market transaction with a futures or forward contract does not imply a reduction in risk: rate-risk exposure is a function of the entirety of a bank's asset, liability, and off-balance-sheet positions. Further, if the hedging of anticipated cash transactions were allowed according to pairing rules, virtually any futures-forward position could be justified ex post. 35/ Attempts to define and enforce permissible futures and forward activity are likely to be both ineffective and burdensome to banks.

3. Alter the costs of bank futures and forward activity. Regulation of prices is likely to be more efficient than the regulation of quantities. 36/ If futures and forward contracts differ from alternative cash market transactions chiefly

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35. Some economists hesitate to describe the purchase or sale of a futures contract before the making of a cash market commitment as a hedge. G. Wright Hoffman regarded "anticipatory hedging" as "open speculation that may ultimately prove to be wise policy." See Future Trading Upon Organized Commodity Markets in the United States (University of Pennsylvania Press, 1932), p. 399.

36. For a summary of the relative efficiency of different regulatory instruments, see Wallace Oates and William J. Baumol, "The Instruments for Environmental Policy," in Edwin S. Mills, ed., Economic Analysis of Environmental Problems (Columbia University Press, 1975). See also John H. Boyd and Myron Kwast, "Bank Regulation and the Efficiency of Financial Intermediation," Research Papers in Banking and Financial Economics, Board of Governors of the Federal Reserve System, Division of Research and Statistics, Financial Studies Section, April 1979 (processed).

in the ease and cost with which risk can be assumed or transferred by market participants, regulators may be able to limit risk by raising bank costs in making futures or forward contracts. Indeed, bank futures and forward activity could be taxed out of existence, either inadvertently or by design.

The mechanism by which futures and forward trading costs of banks could be altered would depend, of course, upon the legal authority of the regulatory agency and the feasibility and ease of administration. More research is necessary before specific proposals can be made. Possibilities include requiring some sort of reserve against futures and forward contracts, or requiring margins--different from those now mandated for all participants in the futures market--to be held by brokers against bank futures and forward positions. 37/ Ideally, the means of affecting bank futures and forward trading costs would be flexbile and variable, giving regulatory agencies the ability to affect differentially the costs of increasing risk versus reducing risk and to respond to changes in market conditions. 38/

4. Specify position limits on futures and forwards. Commercial banks have controlled their trading activity in futures by establishing and enforcing position limits. With a position limit, a maximum acceptable level of risk is established for the bank, but traders are free to take positions within those limits. Reliance upon position limits may be a recognition of the difficulty and administrative costs associated with supervising alternative control techniques, such as the specification of permissible and prohibited futures and forward transactions. Regulators have established limits that place a ceiling on risk to banks in spot market activity--for example, a limit on loans to a single customer of 10 percent of capital.

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37. Examples of the use of reserve and margin requirements to alter financial behavior, while they are not precisely comparable to futures, are manifold. In 1969, reserve requirements against Eurodollar holdings by U.S. domestic banks were raised to curtail undesirably large Eurodollar inflows. Margins (held by brokers) against stock options by all market participants are required under Regulation T, with the amount of the margin varying with the risk of the joint spot-option position of the customer. Margins against forward contracts in government securities have been proposed by the Mortgage-Backed Securities Dealers Association.

38. The former would necessitate a cumbersome definition and identification of the risk in bank joint spot-futures positions.

Assuming that the relationship between bank income and capital is fairly stable, regulators can, all other things being equal, hold potential losses on futures or forwards to a portion of income by establishing trading limits for futures and forwards in proportion to capital. They could set (1) a gross-position limit, with either of the bank's long or short positions limited to a designated proportion of capital, (2) a net-position limit, with the difference between a bank's aggregate long and short positions not to exceed a proportion of capital or (3) a total position limit, with the sum of the long and short positions limited to a designated portion of capital. 39/ Separate limits could be established for futures, forward, and standby contracts.

Like any capital ratio established by regulators, limits on futures and forward positions tied to capital to some extent would be unavoidably arbitrary. In particular, they would ignore the differences between banks in spot positions, other off-balance-sheet contracts, market opportunities, and management quality. 40/ Their contribution would be to scale bank futures and forward activity to a level in reasonable consonance with bank activity in spot markets. Use of capital limits might have prevented some of the extraordinarily large and risky futures and forward positions found in banks.

Position limits could vary with the definition of the activity to be limited (for example, gross versus net positions) and the size of the limit (usually a scaling factor such as a proportion of capital or assets). Three suggested approaches to position limits are discussed below. In each case reference is made to the way the limits would have affected the futures and forward

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39. With K as capital, L as the long position, S the short position, and δ the proportionality constant or limit, these limits may be expressed as follows:

1. Gross position limit: $\max(L,S) \leq \delta K$

2. Net position limit: $|L-S| \leq \delta K$

3. Total position limit: $|L+S| \leq \delta K$

40. In addition, because interest rate changes have a greater impact on the prices of long-term financial futures contracts than on prices of short-term contracts, a given aggregate-position limit would be more constraining on short-term contracts.

activity of state member banks active in those markets in 1978. As of January 1980, the futures and forward activity of 13 state member banks has come to the attention of the Federal Reserve staff. The banks include money center banks and primary dealers in government securities, mid-sized regional banks, and several small banks. Four of the small banks have required supervisory attention because of losses in their contract trading. Experiences, such as a long forward position of $7 million, resulting in contract losses of $123,000 in 1978 for a bank with $22 million in assets, have not been atypical.

Assuming that futures, forward, and standby contracts are homogeneous with respect to risk and are aggregated in determining position limits, tentative conclusions can be reached about which position limits would have been constraining upon banks. 41/ A gross futures, forward, and standby limit (maximum long or short) on all banks equal to 33 percent of capital (about the size of the largest internal futures limit observed at a large bank) would have prevented two small state member banks from taking the large forward positions--more than 400 percent of capital in each case--that have threatened their solvency. Such a limit would not, however, have kept the two other banks from taking positions from which they suffered losses. Recent gross positions at these two banks were less than 30 percent of capital. 42/

The position limits used by large state member banks to control their futures trading have used the gross number. Expressed as a proportion of capital, observed limits at the five largest state member banks surveyed that were involved in futures trading ranged from 21 percent to 34 percent of capital, with a weighted average of 28 percent of capital. Futures trading at these banks seems to have been conducted within these limits, and without problems. Forward trading at larger banks is usally controlled with a net-position limit. Among those banks serving as dealers in forward contracts, this limit is

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41. This assumption of homogeneity is valid in that the three types of contracts involve similar interest rate exposure. It may be invalid to the extent that the costs of taking positions in the three contracts differ, and lower costs may encourage large positions.

42. In addition, a gross futures limit of 33 percent of capital would have constrained the gross forward position, which was 68 percent of capital, of a larger dealer bank. A gross-position limit is inappropriate in judging the risk of this bank, however, because the bank relies upon a stringent net limit for controlling its forward exposure.

often quite stringent, with net exposure less than 10 percent of the larger (long or short) aggregate contract position. In addition, position limits are supplemented with credit-risk guidelines for traders at surveyed GNMA-forward dealer banks. Forward trading among the larger surveyed banks has not resulted in supervisory problems.

A net capital limit specifying that the net face value of all futures, forward, and standby contracts (that is, the absolute value of all long minus all short contracts) not exceed 25 percent of capital (slightly higher than the observed exposure at larger banks), on the other hand, would have constrained the contract positions at the four banks that suffered serious losses. At the same time, such a limit would not have constrained appreciably the contract trading observed at those banks that have not required supervisory attention.

A total capital limit stipulating that the sum of the face value of all futures, forward, and standby contracts not exceed net worth, a limit just above the largest total position observed at a large bank, would have constrained only the very large positions at two small banks. Because total positions were also approximately gross positions at several of the 13 banks, total capital limits less than 100 percent of capital would have yielded about the same relative constraints as the gross limits described above.

Position limits on futures, forwards, and standbys about equal to the largest observed positions in sampled banks that did not experience difficulty in their contract trading would have limited the losses at some banks without restricting the activity at other banks. Regulators have available a tradeoff in setting position limits between (1) restrictive limits that will assure that losses will be acceptable relative to earnings and capital, and (2) less restrictive limits that will allow banks more flexibility but entail more risk. 43/

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43. Forward- and standby-related losses at three of the small banks were about 80 percent, 64 percent, and 14 percent of their net income the previous year. Restrictive limits could be applied if regulators were to decide that losses of this scale are unacceptable. If the highest conceivable loss on a futures, forward, or standby contract were 10 percent of the value of that contract, for example, and if net earnings are normally 6 percent of capital, a gross contract position limit of two-thirds of capital would likely ensure that losses would be limited to that net income, a one-third of capital limit would likely restrict losses to half of net income, and so forth.

Position limits aim to place a ceiling on the "worst case" of possible losses. Banks would be free to trade futures or forwards below the limits, admittedly without regard (in an extreme case) to the interest rate risk in their other operations. Position limits of the size discussed may unduly restrict legitimate bank hedging activity. First, banks might find those limits adequate for their trading and investment operations, but inadequate for hedging the risk in their balance sheets (covering the mismatch in asset and liability maturities). Second, some hedging involves aggregate futures positions that greatly exceed the case position being hedged. An example would be a one-year fixed-rate loan financed with a 90-day CD, hedged with a string of three 90-day Treasury bill futures contracts (one corresponding to each successive CD rollover); the futures position would be a multiple of the cash position, but involve little risk. Finally, if the bank is engaging in riskless arbitrage transactions with futures, simultaneously buying securities in one market and selling them in another to take advantage of price differences for an immediate profit (such as buying a long GNMA futures and selling a short GNMA forward, both for March delivery), subjecting such transactions to a position limit may be warranted. Exemptions could be made to position limits for certain transactions, but the definition and supervision of exemptions are likely to be difficult.

5. Require public disclosure of bank futures and forward positions. An alternative to official regulation of futures and forward activity is to rely upon market regulation. If public disclosure were required of bank future and forward positions, inventors in bank equity and lenders to banks (including depositors) would be better equipped to judge bank risk and to penalize risky bank contract activity by demanding higher risk premiums on bank equity and debt. Bank managers would then be provided with a cost-minimizing incentive to reduce or avoid risky futures and forward positions.

Appendix A

Policy Statement Concerning Forward Placement or Delayed Delivery Contracts and Interest Rate Futures Contracts

The following is a policy statement by the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation and the Office of the Comptroller of the Currency, with respect to financial institutions they supervise, relating to bank participation in futures and forward contract markets to purchase and sell U. S. government and agency securities. Information contained below is applicable specifically to banking activities. An additional statement of policy applicable to activities of bank trust departments and trust companies may be issued at a later time.

The staff of the Treasury Department and the Board of Governors of the Federal Reserve System recently completed a study of the markets for Treasury futures. In part, the study notes that there is evidence that financial futures can be used by banks effectively to hedge portions of their portfolios against interest rate risk. However, the study also cautions that improper use of interest rate futures contracts will increase interest rate risk - rather than decrease such risk. In addition, various participants have aovised that certain salespersons are attempting to suggest inappropriate futures transactions for banks, such as taking futures positions to speculate on future interest rate movements. Furthermore, some banks and other financial institutions have recently issued standby contracts (giving the contra party the option to deliver securities to the bank at a predetermined price) that were extremely large given their ability to absorb interest rate risk. In so doing, these institutions have been exposed to potentially large losses that could (and sometimes did) significantly affect their financial condition.

Banks that engage in futures, forward and standby contract activities should only do so in accordance with safe and sound banking practices with levels of activity reasonably related to the bank's business needs and capacity to fulfill its obligations under these contracts. In managing their investment portfolio,

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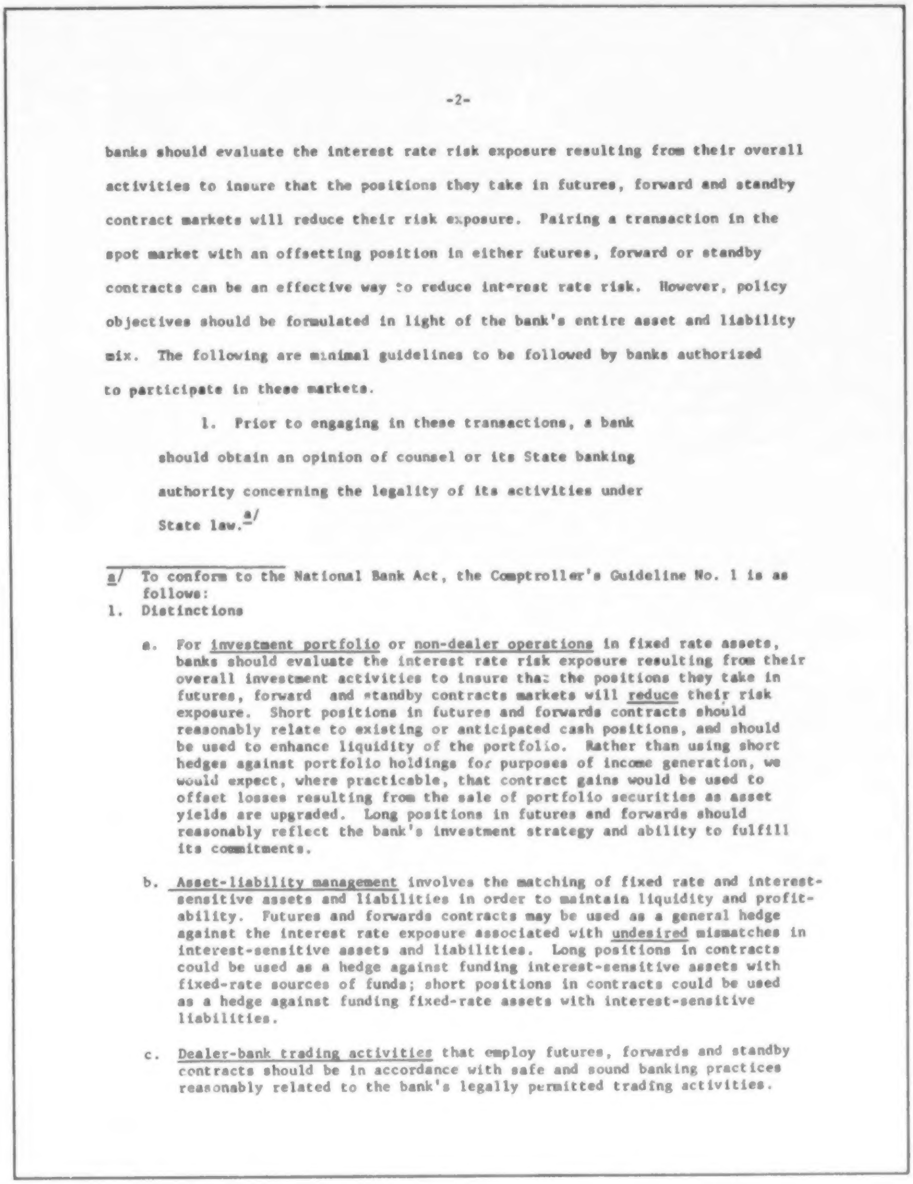

banks should evaluate the interest rate risk exposure resulting from their overall activities to insure that the positions they take in futures, forward and standby contract markets will reduce their risk exposure. Pairing a transaction in the spot market with an offsetting position in either futures, forward or standby contracts can be an effective way to reduce interest rate risk. However, policy objectives should be formulated in light of the bank's entire asset and liability mix. The following are minimal guidelines to be followed by banks authorized to participate in these markets.

1. Prior to engaging in these transactions, a bank should obtain an opinion of counsel or its State banking authority concerning the legality of its activities under State law.[a]

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[a] To conform to the National Bank Act, the Comptroller's Guideline No. 1 is as follows:

1. Distinctions

   a. For *investment portfolio* or *non-dealer operations* in fixed rate assets, banks should evaluate the interest rate risk exposure resulting from their overall investment activities to insure that the positions they take in futures, forward and standby contracts markets will *reduce* their risk exposure. Short positions in futures and forwards contracts should reasonably relate to existing or anticipated cash positions, and should be used to enhance liquidity of the portfolio. Rather than using short hedges against portfolio holdings for purposes of income generation, we would expect, where practicable, that contract gains would be used to offset losses resulting from the sale of portfolio securities as asset yields are upgraded. Long positions in futures and forwards should reasonably reflect the bank's investment strategy and ability to fulfill its commitments.

   b. *Asset-liability management* involves the matching of fixed rate and interest-sensitive assets and liabilities in order to maintain liquidity and profitability. Futures and forwards contracts may be used as a general hedge against the interest rate exposure associated with *undesired* mismatches in interest-sensitive assets and liabilities. Long positions in contracts could be used as a hedge against funding interest-sensitive assets with fixed-rate sources of funds; short positions in contracts could be used as a hedge against funding fixed-rate assets with interest-sensitive liabilities.

   c. *Dealer-bank trading activities* that employ futures, forwards and standby contracts should be in accordance with safe and sound banking practices reasonably related to the bank's legally permitted trading activities.

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2. The board of directors should consider any plan to engage in these activities and should endorse specific written policies in authorizing these activities. Policy objectives must be specific enough to outline permissible contract strategies and their relationship to other banking activities, and record keeping systems must be sufficiently detailed to permit internal auditors and examiners to determine whether operating personnel have acted in accordance with authorized objectives. Bank personnel are expected to be able to describe and document in detail how the positions they have taken in futures, forward and standby contracts contribute to the attainment of the bank's stated objectives.

3. The board of directors should establish limitations applicable to futures, forward and standby contract positions and review periodically (at least monthly) contract positions to ascertain conformance with such limits.[b/]

4. The bank should maintain general ledger memorandum accounts or commitment registers to adequately identify and control all commitments to make or take delivery of securities. Such registers and supporting journals should at a minimum include:

(a) the type and amount of each contract,

(b) the maturity date of each contract,

(c) the current market price and cost of each contract, and

(d) the amount of money held in margin accounts.

[b/] The Comptroller's Guideline No. 3 is as follows:

3. The Board of Directors should establish limitations applicable t tures, forwards and standby contract positions for each distinct categ scribed in item 1 above, and should review contract positions periodical at least monthly) to ascertain conformance with such limits.

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5. All open positions should be reviewed and market values determined at least monthly, (or more often, depending on volume and magnitude of positions), regardless of whether the bank is required to deposit margin in connection with a given contract.[1] All futures contracts should be marked to market at least monthly. Any loss related to open forward and standby[2] contracts should be recognized on the basis of the lower of cost or market value of the underlying security as determined at month-end.[3] At the bank's option open forward contracts maintained in trading accounts may be carried at market.

6. Completed futures, forward or standby contracts giving rise to acquisition of securities will require such security transactions to be recorded on the basis of the lower of contract price or market price on settlement date. If the market value of the securities is lower than the contract price, the difference should be recorded as an immediate charge against income.

7. Fee income received by a bank in connection with a standby contract should be deferred at initiation of the contract and accounted for as follows:

1/ Underlying security commitments relating to open futures and forward contracts should not be reported on the balance sheet. Margin deposits and any unrealized losses (and in certain instances as noted above, unrealized gains) are usually the only entries to be recorded on the books. See "General Instructions" to the Reports of Condition and Income for additional details.

2/ Losses on standby contracts need be computed only in the case of the party committed to purchase under the contract, and only where the market value of the security is below the contract price adjusted for deferred fee income.

3/ Should margin on forward contracts be required, and assuming the margin accounts would work in the same manner as exchange margins, bank forward contracts should be carried at market to reflect the margin transactions.

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a. upon expiration of an unexercised contract the deferred amount should be reported as income;

b. upon a negotiated settlement of the contract prior to maturity, the deferred amount should be accounted for as an adjustment to the expense of such settlement, and the net amount should be transferred to the income account; or

c. upon exercise of the contract, the deferred amount should be accounted for as an adjustment to the basis of the acquired securities. Such adjusted cost basis should be compared to market value of securities acquired. (See item 6.)

8. Bank financial reports should disclose in an explanatory note any futures, forward and standby contract activity that materially affect the bank's financial condition.

9. To insure that banks minimize credit risk associated with forward and standby contract activity, banks should implement a system for monitoring credit risk exposure associated with various customers and dealers with whom operating personnel are authorized to transact business.

10. Banks should establish other internal controls including periodic reports to management and internal audit programs to assure adherence to bank policy, and to prevent unauthorized trading and other abuses.

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The issuance of long-term standby contracts, i.e., those for 150 days or more, which give the other party to the contract the option to deliver securities to the bank will ordinarily be viewed as an inappropriate practice. In almost all instances where standby contracts specified settlement in excess of 150 days, supervisory authorities have found that such contracts were related not to the investment or business needs of the institution, but primarily to the earns of fee income or to speculating on future interest rate movements. Accordingly, banks should not issue standby contracts specifying delivery in excess of 150 days, unless special circumstances warrant.

The Board, FDIC and OCC intend to monitor closely bank transactions in futures, forward and standby contracts to ensure that any such activity is conducted in accordance with safe and sound banking practices. In light of that continuing review, it may be found desirable to establish position limits applicable to banks. Supervisory action in individual cases under the Financial Institutions Supervisory Act (12 U.S.C 1818 (b)) may also be instituted if necessary.

This policy statement will become effective January 1, 1980 and will apply to all outstanding contracts as well as those entered into by banks after January 1. The Board, FDIC and OCC, however, will receive comments on this policy statement. Interested parties may submit comments and information on this statement in writing to Theodore E. Allison, Secretary of the Board of Governors of the Federal Reserve System, Washington, D. C. 20551 (Docket No. R-0261); Owen Carney or Scott Ryan, Investment Securities Division, Office of the Comptroller of the Currency, Washington, D. C. 20219 (Comptroller's Banking Circular 79 (Rev.) and Sally Y. King, Division of Bank Supervision, Federal Deposit Insurance Corporation, Washington, D. C. 20429.

Such material will be made available for inspection and copying upon request, except as provided by the agencies' rules.

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Appendix B

THE MECHANICS OF TRADING IN INTEREST RATE FUTURES CONTRACTS

Transactions in futures contracts involve three kinds of participants: Buyers or sellers of the contract, brokers, and the futures exchange. Trading is initiated when a customer calls his broker and orders the execution of a futures contract. The broker--a member of the clearinghouse of the exchange--will take the order to the auction floor and purchase (through another broker) a contract sold by another customer. The transactions will occur only when a price is reached that has induced a seller to take the opposite side of the contract, just as with transactions in equities on stock exchanges. All futures transactions are made through and carried on the books of clearinghouse member brokers, who are treated by the exchange as their own customers. 44/

Futures contracts, then, are originally arranged between two customers through their brokers; the brokers in turn become customers of the exchange, and the price is determined by open out cry on the exchange floor. The futures contract when executed is an agreement between two parties to transfer securities of a specified par value at a date in the future at the specified auction price. For example, one party may be obligated to deliver and the other party to accept delivery of $100,000 in par value of 8 percent Government National Mortgage Association mortgage certificates six months in the future at a price of 92-22/32 (that is, for $92,688). 45/

"Trading of interest rate futures" refers to the making of contracts for securities the market value of which will vary with changes in interest rates. The futures contracts themselves are not being traded: no secondary market exists for such contracts. 46/

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44. A broker who is not a clearinghouse member must trade through a clearing member.

45. All references to GNMA futures in this appendix are to the GNMA collateralized delivery receipt (CDR) contract traded on the Chicago Board of Trade.

46. Both organized futures exchanges and the Commodity Futures Trading Commission have rules specifying that all purchases and sales of futures contracts must be made on the trading floors of the exchanges. A futures contract cannot be made on the exchange and resold privately; the exchange will continue to recognize the original maker of the exchange as obligated to fulfill the terms of the contract.

Once having made a contract to make or take delivery of securities in the future ("selling or buying a futures contract" in industry parlance), a party must fulfill the terms of that contract. The obligation under the futures contract may be terminated either by making or by taking delivery of the securities as specified in the contracts or by executing another futures contract to cancel the original contract. But in no event is the futures contract itself resold: the contract is not negotiable paper.

Every day at the close of business, all transactions are tallied and the clearinghouse of the exchange becomes the opposite party to every transaction. The transactions are in effect split, with the exchange becoming the buyer to which all sellers make delivery and the seller from which all buyers take delivery. All futures contracts thus become obligations of the exchange, and all transactions are guaranteed by the exchange. Because the transaction is guaranteed by the exchange, contracts can be made for the future delivery or receipt of securities without regard to the identity or creditworthiness of the parties to the transaction.

No uncovered position is taken by the exchange through this clearing process because every contract bought is matched by a contract sold. 47/ Any clearing member broker may have a net short or long position in futures contracts, depending upon whether it has received more buy or more sell orders from its customers, but the sum of all brokers' long and short contracts will balance exactly. Similarly, any individual customer may be net long or net short in futures contracts, though the total of all the futures positions of customers must necessarily balance. Contracts can be closed through the exchange clearinghouse by market participants in two ways. First, the party to the contract may elect to make or take delivery of securities, and second, a futures contract may be closed by executing an offsetting contract.

If a party to a contract elects to make delivery of securities, the customer gives a notification of intent to deliver to his clearing member broker. The exchange clearinghouse then will take delivery to the oldest outstanding long (buyer) of a

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47. The accumulated total of all outstanding contracts that have not been liquidated is the "open interest." The open interest total refers only to the number of actual contracts (for which both buyer and seller exist), and so does not double count the face value of all long and short commitments.

record on its books. 48/ Delivery of the securities is made through a commercial bank depository, by book transfer on the accounts of the brokers of the long and short parties. Treasury bill futures contracts, for example, specify, for each contract, the delivery of $1 million in face value of U.S. Treasury bills maturing in 91 days. Treasury bills originally issued with a 180-day maturity but with 91 days remaining to maturity may be delivered under the contract. The exchange will also accept 90- or 92-day bills with an adjustment in price to give the same Treasury bill yield as a 91-day (13-week) bill. Trading in GNMA futures ceases on the eighth business day before the end of the month of contract maturity, and the GNMA delivery receipt may be delivered at the seller's option on any day during that month. Trading in Treasury bill futures ceases on the Wednesday following the third Monday auction of Treasury bills at Federal Reserve Banks during a month of contract maturity, with delivery mandated on the following Thursday.

As an alternative to making or taking delivery of the underlying securities, the market participant that had originally purchased a futures contract may close out its open position by selling a futures contract of the same type of maturity. On the books of the exchange clearinghouse, it has terminated its obligation to make (take) delivery of the securities by executing a contract to take (make) delivery of the same securities to itself. The clearinghouse books have served as the clearing and canceling mechanism, and no securities need change hands. The purchase and sale of one futures contract (or vice versa) is known as a "round turn." Brokerage commissions range between $22 and $60 for a round turn, but are negotiable on that portion of an order in excess of four contracts. 49/ Most futures contracts are closed by executing an offsetting contract.

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48. A buyer will always exist for any maturity of a futures contract. A contract can be purchased (sold) on the auction floor only when a buyer (seller) can be found. After the close of trading the exchange will split the contract and assume the other side of every purchase or sale. For every existing seller of futures when a contract matures, there must exist an outstanding buyer. The oldest buyer of record will be the market pariticipant who has held a long futures position for the longest time period and has not offset that position with a contract sale as of the delivery month.

49. After March 4, 1978, all commissions were negotiable.

Trading in interest rate futures is nearly always conducted "on margin." 50/ A margin, or security deposit, of less than 5 percent of the contract value deposited with the broker is typically required on a futures transaction. Minimum margins required by brokers for GNMA and Treasury bill contracts are currently $1,000 and $800 respectively. The exchanges in turn require the same margins from their clearing member brokers. Trading gains or losses are credited or debited daily by the exchange to the accounts of clearing member brokers, who in turn credit or debit their customers' margins. The practice of trading futures contracts on margin means that very large commitments to deliver or accept delivery of securities can be made with relatively little money down: four Treasury bill contracts ($4 million face value) may be purchased, for example, with a security deposit of only $3,200.

Trading Strategies with Interest Rate Futures

Speculation in interest rate futures occurs when a market participant takes long or short positions in interest rate futures contracts in anticipation of a profit from changes in interest rates. A market participant who believes that interest rates will be higher than the market expects may speculate by selling a futures contract. If interest rates rise and the price of the securities the market participant has agreed to deliver falls below the price agreed upon in the futures contract, the market participant may profit by purchasing securities in the cash market to make delivery or by purchasing an offsetting futures contract (at a lower price than in the original contract).

The possible speculative gain from a short position can be seen in example 1. In September, with Treasury bills yielding 7 percent, the speculator expects interest rates to rise and so sells a December Treasury bill futures contract at a price of $982,500 which implies a 7 percent yield. If short-term rates rise to 7.5 percent, the speculator will be able to buy a December contract for $981,250 at a 7.5 percent yield to close out the position, gaining $1,250 on the transaction. Had the speculator instead bought a futures contract, anticipating a fall in interest rates relative to market expectations, he would have incurred a $1,250 loss.

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50. This margin is not equivalent to a margin on the purchase of equities because the futures contract is not a purchase of equity, and no borrowing need be involved. Standby letters of credit and U.S. Treasury bills are frequently deposited with brokers as margin for futures contracts.

Example 1. Gain from a speculative short position in interest rate futures

September.	Rate on 91-day U.S. Treasury bill is 7 percent.	Sell a December Treasury bill contract at 7 percent for $982,500.
December.	Rate on 91-day U.S. Treasury bill has risen to 7.5 percent.	Buy a December Treasury bill contract a 7.5 percent for $981,250.
		Gain: $1,250

The speculative gains or losses on futures trading depend not merely on the direction of the change in interest rates, but also upon the change in interest rates relative to expectations of changes. Since futures prices embody expectations of movements in security prices and interest rates, the change in actual interest rates to changes in the rates implied by futures prices will determine trading gains or losses. This can be seen in example 2. The yield on a 91-day U.S. Treasury bill on March 14, 1977, was 4.57 percent. On that date, December Treasury bill futures were priced at 93.51, implying a yield of 6.49 percent: participants in the futures market expected interest rates on Treasury bills to rise. Prescriptions for futures trading strategy sometimes dictate sale of a futures contract when rates are expected to rise. Such a strategy in this example would have resulted in a loss to the speculator: interest rates on Treasury bills rose by December, but only to 6.15 percent instead of the 6.49 percent implied by the December futures prices that prevailed in March. So the speculator would have lost $859. Had a long position in futures been taken instead--a bet that short-term rates would rise, but not by as much as implied by the futures price--he would have gained $859.

Example 2. Loss from a speculative short position in interest rate futures

March 1977.	Rate on U.S. Treasury bill 91-day maturity is 4.57 percent.	Sell a December Treasury bill futures contract at 6.49 percent for $983,595.
December 1977.	Rate on U.S. Treasury bill 91-day maturity has risen to 6.15 percent.	Buy a December Treasury bill futures contract at 6.15 percent for $984,454.
		Loss: $859

"Hedging" in interest rate futures occurs when a market participant takes a position in the futures market to reduce its exposure to the risk of price fluctuation on a cash market transaction. In a hedge, a position is taken in the futures market that is opposite to the position taken in the cash or spot market. When the cash market transaction is completed, the futures position is closed with the execution of an offsetting contract.

An example of a traditional hedge is a mortage bank seeking to reduce the risk of price fluctuation on a loan commitment by executing a futures contract sale. If in June the mortgage bank is committed to buy pooled mortgages from a builder in January at a fixed price for resale to investors, it is exposed to the risk of a decline in the principal value of the mortgages because of a rise in interest rates. The mortgage bank may choose to hedge against this risk by selling a GNMA futures contract. If interest rates rise, the loss on the sale of pooled mortgages will probably be largely offset by a gain on the futures transaction; see example 3. Notice that if interest rates had fallen in the period, the mortgage bank would have gained in the resale of mortgages but lost in the futures market transaction. Hence, in a perfect hedge, the hedger's earnings are unaffected by changes in market interest rates in either direction. In example 3, the mortgage bank makes money solely from its origination fee plus its servicing fee--while using the futures market to "guarantee" that it will not take a loss (or make a gain) from the process of making mortgages and reselling them to permanent investors. 51/

Example 3. A perfect short hedge in which long-term interest rates rise from about 8.5 percent in June to near 9 percent in January.

	Cash market	Futures market
June.	Mortgage banker makes commitments for $1 million mortgage pool based on current GNMA cash price of 98-28/32, for $988,750.	Sells ten March GNMA futures at 96-8/32, for $962,500 to yield 8.59 percent.
January.	Mortgage banker acquires and resells $1 million of pooled mortgages to investors at a price of 95-20/32, for $956,250.	Buys ten March GNMA futures at 93, for $930,00 to yield 8.95 percent.
	Loss: $32,500	Gain: $32,500

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51. Example 3 is from Chicago Board of Trade. The effects of margin and brokerage costs on the transaction are not taken into account.

An example of a long hedge is that of an asset financed with a fixed-rate liability of a longer maturity. A firm may, for instance, hold 90-day Treasury bills and also have 180 days remaining on a loan from a bank. It will thus have an inflow of cash from the maturing 90-day Treasury bills in three months. If the firm fears that the Treasury bill rate will rise above the loan cost and wishes to "lock-in" the present spread between the current Treasury bill futures rate and the loan rate it may do so by buying a futures contract for delivery of 90-day Treasury bills three months in the future. The increased cost of the Treasury bills in three months (if rates have fallen) may be offset by an appreciation in the price at which the firm can sell the Treasury bill futures contract, as demonstrated in example 4. Note that the firm, as a long hedger, will have locked in an effective 8 percent yield on the Treasury bills whether spot rates rise or fall (if rates rise, the gain in the spot market is offset by a loss in the futures market).

Example 4. A perfect long hedge in which interest rates on short-term securities fall between March and June

	Cash market	Futures market
March.	Corporate treasurer anticipates buying $1 million in 91-day Treasury bills in June at 8 percent for $979,777.80.	Buys a September Treasury bills futures contract for $979,375 at 8.25 percent yield.
June.	Corporate treasurer buys $1 million face value of 91-day Treasury bills at 7.50 percent for $981,041.70.	Sells a September Treasury bill futures contract for $980,638.90 at 7.74 percent yield.
	Opportunity loss: $1,263.90	Gain: $1,263.90

The aggregate futures and forward position at a bank (and particularly at a money center bank) at any time is likely to be the result of a combination of hedging, arbitrage, and open-position transactions. These transactions commonly include the following:

1. Pure arbitrage. Price differences may exist between two markets for the same security, allowing a simultaneous purchase in one and sale in the other to result in a profit. An example may be the sale of a GNMA forward contract for September delivery with the simultaneous purchase of a GNMA futures contract with a September delivery. No interest rate risk is involved, and the profit is made immediately.

2. Holding-period arbitrage. If an investor wishes to place funds in earning assets for a predetermined period of time, a combination of a simultaneous purchase of a security and a futures contract execution may result in a higher return than a simple cash-market security purchase. For example, if on the first of January an investor wishes to place his funds in Treasury bills for 90 days, two alternatives are open. One is to purchase a 90-day Treasury bill and hold it until maturity. The other is to purchase a 180-day Treasury bill and at the same time sell a Treasury bill futures contract specifying that the investor will deliver a 90-day Treasury bill in three months (March). The investor may earn a higher return by buying a 180-day Treasury bill, holding it 90 days, and then delivering it to fulfill the terms of the futures contract than by simply buying a 90-day Treasury bill. Similarly, the relationship between spot prices and futures contracts on 90-day and 180-day Treasury bills with a delivery date three months later may be such that if an investor wishes to place funds for six months beginning in January, a higher return may be earned by simultaneously buying a 90-day Treasury bill and a long Treasury-bill futures contract calling for the delivery of a 90-day Treasury bill in March than by purchasing and holding a 180-day Treasury bill. These operations are arbitrage in the sense that the investor is taking advantage of misalignments between the term structure of Treasury bills in the spot and futures markets, and in that the return is known as of the date the spot and futures trades are executed regardless of future interest rate movements.

3. Interest rate risk arbitrage (spread positioning). Interest rate risk arbitrage involves taking simultaneous long and short futures or forward positions in the same security to take advantage of expected changes in the shape of the yield curve. It is not true arbitrage because the return to the market participant will vary with changes in the relationship between the yields on different maturities of the same security. A trader may, for example, take a spread with a long position in June Treasury bill futures and a short position in December Treasury bill futures. The trader is betting that the yield curve as implied by futures prices will become steeper and that the prices of the December contracts will fall relative to those of the June contracts. The trader who instead thought the yield curve would become flatter would sell the near maturities and go long in the more distant maturities. Whereas spread positions are not riskless, they generally involve less risk than simple open futures or forward positions since gains (losses) on the near maturities on a spread are likely to offset to a large extent the losses (gains) on more distant maturities, regardless of the direction or magnitude of changes in interest rates. The Chicago exchanges have recognized this fact and require little or no margin deposits on spread positions.

Appendix C

FORWARD AND FUTURES MARKETS FOR FOREIGN EXCHANGE

Trading by banks in markets for the forward and future delivery of foreign exchange dwarfs their trading in similar contracts for securities. In 1977 world exports and imports amounted to more than $2 trillion; the foreign exchange for these transactions was obtained largely through the commercial banking system. A survey of 44 U.S. banks by the Federal Reserve Bank of New York in April 1977 found these banks to have had a gross turnover (purchases plus sales) of more than $100 billion in foreign exchange that month--in excess of $5 billion per day. A large portion (45 percent) of the currencies traded by the surveyed banks were under forward contracts, defined as currency transactions in which the trade date is more than two days in the future.

The forward foreign exchange market is predominantly composed of large international commercial banks that trade currencies 24 hours a day by telephone and telex. These include banks that buy and sell foreign exchange for their customers and correspondent banks, and also market-making banks that stand prepared to trade any major currency with other banks at any time. Banks trade among themselves, but also use nonbank foreign exchange brokers. The forward currency market is one of the most efficient markets in existence. Price quotations are commonly made at the fourth decimal place. Arbitrage operations by market participants--including simultaneous transactions in as many as six currencies--keep the values of the currencies aligned with each other in different markets. The U.S. Treasury, with the Federal Reserve Banks as agents under the provisions of the Par Value Modifications Act, collect weekly data on spot and forward contract transactions in foreign exchange for all U.S. banks and their foreign branches and subsidiaries. Data are available for nine currencies, and aggregates are published in the Treasury Bulletin; no breakdown by contract maturity is available. Individual bank data are confidental, but are available to regulators.

Futures contracts for six currencies are offered by the International Monetary Market of the Chicago Mercantile Exchange. Like interest rate futures, foreign exchange futures have standard contract units and delivery dates (maturities) and cannot be transferred off the exchange floor. Foreign currency futures include the following contracts: (1) Mexican pesos

(1 million pesos); (2) Swiss francs (125,000 francs); (3) British pounds (25,000 pounds); (4) Canadian dollars (100,000 Canadian dollars); (5) German marks (125,000 marks); and (6) Japanese yen (12.5 million yen).

Bank trading in foreign exchange futures markets is small in comparison with forward foreign exchange trading. Total trading volume of foreign exchange futures was $2 billion in April 1977, only one-fiftieth the forward market volume. A Commodities Futures Trading Commission survey of open futures position holders on November 30, 1977, found 20 banks holding 169 long and 65 short futures contracts in the six currencies.

Bank forward foreign exchange trading involves (1) exchange rate risk--the possibility that fluctuations in foreign currency values will result in a loss on an open position; (2) maturity-gap risk, for which forward short contracts (to deliver foreign exchange) are matched by long contracts (to receive the same currency) but not for the same date in the future; (3) country-exposure risk--the possibility that a nation may impose restrictions on the movements of its currency across borders; and (4) credit risk--the possibility that the party to a forward contract will fail to deliver or pay for the currency. (Futures foreign exchange contracts involve somewhat less credit risk than forward contracts because the organized exchange guarantees all transactions.) Foreign exchange trading by commercial banks is usually tightly controlled to manage all four kinds of risk, with internal trading limits on all traders. Because the preponderance of U.S. bank assets and liabilities are denominated in dollars, the risks in foreign exchange futures and forward trading are easier to identify and control than they are for futures or forward contracts for securities. The exchange rate risk, forward maturity-gap risk, and country-exposure risk can often be confined to one bank department, whereas the interest rate risk on future and forward positions in securities must be judged against the interest rate risk throughout the bank's entire balance sheet. 52/ Except for the Franklin National Bank's well-publicized foreign exchange losses, bank forward and futures trading in foreign currency has caused relatively few supervisory problems.

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52. This is only partially true for banks with large foreign operations. Large banks with branches and subsidiaries with assets and liabilities denominated in foreign currencies attempt to distinguish, nevertheless, between their exposure from foreign exchange trading and that resulting from loans made and debt incurred abroad in foreign currencies.

BANK LOAN COMMITMENTS

Gerald A. Hanweck

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The use of loan commitments is a common practice among banks in making business loans. As an indication of their widespread use, loan commitments are the largest source of bank contingent liabilities; unused commitments at 117 banks in October 1980 amounted to $359.5 billion. Although the contingent liability of loan commitments is recognized for accounting and legal purposes, nothing requires their listing in any public reports, for example, the 10K Report of the Securities and Exchange Commission or the Reports of Condition required by federal bank supervisors. Similarly, examination policies concerning loan commitments are inconsistent among bank supervisory agencies, and unlike loans and standby letters of credit, no explicit regulation places limits on loan commitments. As a result of the lack of a specific regulation, some banks with excessively liberal loan commitment policies may have overextensions of loans during periods of heavy loan demand. Nevertheless, there is no evidence of bank supervisory problems directly related to loan commitments.

Because loan commitments represent a bank's promise to lend, the Board has expressed concern about the possible effects of unregulated loan commitments on the performance of monetary policy during periods of rising loan demand. The available research suggests that the efficacy of monetary policy may be hampered by extensive loan commitments, but the evidence is far from conclusive. The lack of conclusive research has resulted mainly from the paucity of data on the volume and pricing of loan commitments and of loans taken down under commitments. At present, the available data are drawn from a sample of large banks as reported in the Board's Loan Commitment Survey and Survey of Terms of Bank Lending (STBL). These surveys provide information on the volume of loans taken down under commitment, the loan interest rate and maturity at time of reporting, the total volume of loan commitments, and whether the takedown is made under a floating or fixed rate. No data on the fees or compensating balances required on loans or loan commitments are available. Thus, the supply and demand relationships for loan commitments and takedowns cannot be estimated.

The purpose of this study is to provide a general background for bank loan commitments and for the monetary and supervisory policy issues raised by them. The first section gives a brief historical perspective followed by a discussion of the pricing of loans and loan commitments. In the final two sections the monetary and supervisory issues of bank loan commitments are considered.

HISTORICAL BACKGROUND

A loan commitment is a lender's promise to make a loan up to a maximum amount for a specified time period at agreed-upon terms. A loan commitment may be either an informal arrangement between the lender and borrower or a formal contract. In either case, the primary benefit of a loan commitment to the borrower is the assurance that an adequate supply of funds will be available when needed at a prearranged price, while the lender benefits from the fee or compensating balance given in exchange for the promise to lend.

Loan commitments are a natural outgrowth of commercial bank lending practices. By the 1870s, the practice of informally assuring renewal of short-term notes had been adopted in commercial bank lending to businesses. 1/ This procedure had the essential characteristic of a loan commitment--that is, it guaranteed a maximum loan amount.

By the 1920s the loan commitment practices prevalent today had evolved. At that time the attitude within the banking industry toward bank lending was changing from the "real bills" doctrine of investment in short-term self-liquidating loans to the "shiftability" theory of funds management. The shiftability theory postulates that cash needs arising from unanticipated withdrawals of deposits could be met by selling short-term liquid assets, such as commercial paper, Treasury bills, and bankers acceptances rather than relying solely on the self-liquidating feature of short-term business loans.

In the early 1960s, liability management became an integral part of commercial banking practices. Liability management, along with the tight credit conditions of 1966 and 1969, further enhanced

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1. Bruce J. Summers, "Loan Commitments to Business in United States Banking History," Federal Reserve Bank of Richmond, Economic Review (September-October 1975), p. 18.

the demand for and supply of loan commitments. Not only did liability management provide the means to meet loan demand through commitments, but the periodic tight credit conditions stimulated business demand for the secure source of bank lending represented by loan commitments.

Banks found the climate for supplying credit sharply different in the years after 1965, when interest rates were rising and more volatile, from that in the earlier postwar years. Volatile interest rates, periodic crises in the availability of funds, and accelerating inflation stimulated lenders and borrowers to seek methods of reducing intertemporal interest rate risk and risks resulting from adverse cash flows. From the borrower's perspective, the accelerated rate of inflation induced greater loan demand, and the credit crunches produced a greater demand for secure credit lines.

Money center banks in the late 1960s began to "float" the prime rate, basing it on a moving average of the commercial paper rate. After the mid-1960s, the prime rate became increasingly volatile: While it changed 23 times in the 13-year period from August 1955 to December 1968, in the 10-year period from January 1969 to December 1978 it changed 104 times, and in 1980, about 40 times.[2] Also during the late 1960s and early 1970s, the floating-rate, short-term loan began to be prominent. In 1980 about 35 percent of short-term commercial and industrial loans reported in the STBL were floating-rate loans. Comparable data are unavailable for the pre-1970 period, but surveys conducted during that period indicate that a significantly smaller portion of outstanding loans were originated with a floating rate.

During the tight money period in 1974, loan commitments proved to be a valuable financing arrangement for most borrowers. At that time, interest rates reached historically unprecedented levels; a two-tier rate for certificates of deposit (CDs) was in effect for regional and money center banks; some regional bank holding companies found commercial paper financing difficult;

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[2] Banking and Monetary Statistics, 1941-1970 (Board of Governors of the Federal Reserve System, 1976), Table 12.8, p. 707; and Federal Reserve Bulletin, selected issues.

and an artificial ceiling was placed on the prime rate as the Committee on Interest and Dividends (CID) attempted to hold down interest rates. Under these circumstances, takedowns from existing loan commitments were increasing because the prime rate was too low to reduce demand for credit effectively, and most likely because banks were rationing credit by turning away customers without established loan commitments or lines of credit.

When money is tight, borrowers tend to increase their use of bank credit and thus to increase takedowns on loan commitments. In September 1974, at the pinnacle of the credit crunch, 49.6 percent of total formal agreements and confirmed lines of credit to commercial and industrial borrowers were taken down, according to data from the Board's Loan Commitment Survey (table 1). By January 1978 during a period of slack loan demand, takedowns on loan commitments had been reduced to 37.3 percent--the lowest rate since 1974. This decline of 12.3 percentage points is not so large as may have been expected from earlier experience. One reason may be that many borrowers attempted to extend loan maturities because of the severity of the 1974-75 recession, thus maintaining the level of takedowns.3/ Nonetheless, these data suggest a cyclical pattern, in which the ratio of used to total loan commitments increases during tight money periods and decreases afterward. In addition, the experience of some large banks suggests that the ratio of used to total loan commitments may be increasing secularly, with potentially higher peaks during successive tight money periods (chart 1).4/

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3. The evidence of a large number of problem loans during the 1974-76 period indicates that banks may have been accommodating borrowers already on the books by revising loan terms to meet special needs. For example, delinquency rates on bank installment loans reached their high in December 1974 and remained high through 1976; see American Bankers Association, Delinquency Rates on Bank Instalment Loans 1967-1978: A Historical Summary (1978).

4. Evidence from the Mellon National Bank, Pittsburgh, Pennsylvania, over the period 1960-72 indicates this type of cyclical pattern; see James H. Higgins, "Loan Commitments," Journal of Commercial Bank Lending, vol. 54 (Philadelphia: Robert Morris Associates, July 1972), pp. 2-9. These data also suggest that the ratio of takedowns to total commitments may have a secular trend as indicated by a peak that increases in each of three successive tight money cycles during this period (chart 1).

The takedown rate peaked most recently in September 1979 (chart 2), and current evidence on loan commitments indicates that it fell steadily through May 1980 and then leveled off by July. The recent moderate level of this rate, 34.3 percent as of October 1980, compared with the peak of September 1974 of 49.6 percent, is evidence of moderate credit stringency in 1980. The decline in the takedown rate since September 1979 may have reflected anticipation by borrowers that credit tightening would follow the October 6, 1979, announcement of monetary policy changes by the Federal Reserve System. Borrowers may have "stockpiled" loan commitments with little intention of borrowing except under extremely tight credit conditions. The more precipitous decline in the first few months of 1980 may have reflected the additional fear of credit controls, which in fact were imposed with the President's invocation of the Credit Control Act of 1969. Another influence depressing takedown rates during this period was a strong demand for loan commitments to support an increased number of mergers and acquisitions in 1979.

PRICING AND SOURCES OF RISK IN BANK LOAN COMMITMENTS

A loan commitment is essentially a guarantee issued by a lender to a potential borrower that assures the borrower of the ability to receive a loan at his own discretion up to a maximum amount over a specified period. The risk to the bank of an individual loan commitment arises from the need to provide a cash outflow at a point in the future that is unknown to the bank during the term of the loan commitment. Moreover, many borrowers may take down their loan commitments simultaneously. The lender usually considers a loan commitment as a binding contract, and banks levy a charge for bearing the risks. The price of loan commitment contracts usually takes the form of a fee based on the total commitment, the unused portion, or both, or a compensating balance levied on the total commitment, the unused portion, or both.

The Pricing of Bank Loan Commitments--Theoretical Considerations

Much of the literature on the pricing of bank loan contracts has employed models of credit rationing that ignore loan commitments and has emphasized the pricing of loans in terms of interest rates and compensating balances.5/ With this emphasis, little analysis of the pricing or the setting of terms on loan commitment contracts has been done. In the research that has been published recently, the analysis of loan commitments has been made at the most rudimentary level.6/ For example, no theoretical or empirical attempt has been made to link market rates of interest to the fees or compensating balances set on loan commitments.7/ The paucity of theoretical research on loan commitments is due largely to the complexity of a loan commitment contract.

Until recently, the lack of data has stymied empirical research on loan commitments. Although some data had been available since 1968, the first comprehensive material on loan commitments by type and volume at commercial banks was collected with the advent of the Loan Commitment Survey in 1975 and the STBL in 1977. These data have permitted some descriptive research concerning bank loan commitment practices. For example, Paul Boltz and Tim Campbell found that in 1977 most loan commitments, including revolving credits, were made under variable-rate contracts that

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5. See Dwight M. Jaffee and Franco Modigliani, "A Theory and Test of Credit Rationing," American Economic Review, vol. 59 (December 1969), pp. 850-72 for an extensive theoretical treatment and some empirical results. Much of the recent research has taken a similar approach of attempting to explain credit rationing. See Corry F. Azzi and James C. Cox, "A Theory and Test of Credit Rationing: Comment," American Economic Review, vol. 66 (December 1976), pp. 911-17; Dwight M. Jaffee and Thomas Russell, "Imperfect Information, Uncertainty, and Credit Rationing," Quarterly Journal of Economics, vol. 90 (November 1976), pp. 651-66; and Vernon L. Smith, "The Borrower-Lender Relationship," American Economic Review, vol. 66 (June 1976), pp. 406-07.

6. Tim S. Campbell, "A Model of the Market for Lines of Credit," Journal of Finance, vol. 33 (March 1978), pp. 231-44.

7. Some recent unpublished literature employing the options pricing model to value loan commitments may be analytically useful in this regard. See Hai Hong and Stuart I. Greenbaum, "Bank Loan Commitments and Interest Rate Volatility" (Graduate School of Management, Northwestern University, November 1977; processed).

had been stated at or moderately above the prime rate.[8] In contrast, loans that bore large markups over prime were usually not made under loan commitments. They also found that fees were infrequently used as compensation on short-term loan commitments, while fees were charged on nearly half the long-term loan commitments. Boltz and Campbell speculate that the reason for this difference in pricing strategy is that compensating balances are not well suited to long-term loan commitments because they may be difficult to enforce over long periods. However, for short-term loan commitment contracts the compensating-balance requirement is more easily enforced and more palatable than a fee to the borrower because these balances may also be used for transaction purposes.

Irwin D. Lane has developed a model of bank loan commitments for the express purpose of determining the conditions under which commitments may contribute to inflation and to rapid increases in money market interest rates.[9] His general conclusion is that, given an increase in desired takedowns, money market rates will increase by more in a banking system characterized by loan commitments than in one without. This conclusion stems from his assumption that in a banking system without loan commitments borrowers will be effectively rationed and loan extensions, therefore, will be less for each level of demand; consequently, banks will need a smaller volume of funds, which would come from the money market, to finance borrowers and open market rates will increase less.

Lane assumes that during tight money periods potential borrowers without loan commitments are turned away and do not get funds. Even though little theoretical or empirical evidence supports this assumption, he concludes that a monetary policy that attempts to restrain the growth of credit and the monetary aggregates will result in higher interest rates when loan commitments are common than it would under credit rationing. As

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8. Paul W. Boltz and Tim S. Campbell, *Innovations in Bank Loan Contracting: Recent Evidence*, Staff Studies 104 (Board of Governors of the Federal Reserve System, 1979). A summary of this paper was published in *Federal Reserve Bulletin*, vol. 65 (May 1979), pp. 393-94.

9. Irwin David Lane, "Commercial Bank Loan Commitments" (Ph.D. dissertation, University of California, Berkeley, 1975).

will be discussed, when banks cannot effectively ration credit because of the widespread use of loan commitments, the prime lending rate and bank borrowing rates must bear the brunt of controlling money and credit in the short run; this is true even when commitments are made at variable interest rates on takedowns.

The pricing of loan commitments is clearly a critical factor in understanding their use. The setting of the commitment fee or the surety fee for the guarantee of being able to borrow should be treated in conjunction with the setting of the interest rate and other lending terms on the amount of the takedown or loan. In establishing a commitment fee the lender must be compensated for the cost of being ready to lend the full amount of the commitment on demand. In turn, the borrower must be willing to pay a fee for the privilege of being able to borrow at his discretion and of having the assurance of a loan contract without incurring search costs each time borrowing becomes necessary.

The borrower's alternative to a loan commitment is to negotiate loans or other borrowings as needed. The costs of search may be large if a borrower must approach many potential lenders to secure a loan. In addition, the lending rates may be less favorable than they would have been had they been previously arranged under a commitment, particularly in times of rising interest rates. Taking these considerations into account and assuming that all loan contract rates are expressed as a markup over some average rate of bank borrowing costs, the fee the borrower is willing to pay for a loan commitment will vary directly with market interest rates. For example, when market rates are high and rising, a potential borrower has the alternatives of borrowing when the need arises or of making a loan commitment in advance of need. If the need to borrow arises when money is tight, the borrower would have to incur considerable costs in searching for credit or be faced with a higher markup over the market cost of funds because of credit rationing. Consequently, the borrower may be willing to pay a higher fee to secure a current loan commitment when interest rates are high and rising than when money is not tight and interest rates are lower or falling.

The loan commitment fee for any borrower may increase along with the demand for commitments. As argued above, rising interest rates can lead to an increase in the demand for loan commitments by borrowers without previous commitments. Consequently, an increase in market rates can result in higher demand for commitments and higher commitment fees. In practice, during tight money periods some banks have increased loan commitment fees on new or renewed commitments and have attempted to discourage total borrowing by raising fees on the total commitment while maintaining fees on the unused portion of existing commitments.

Pricing of Loans and Loan Commitments and Interest Rate Risk

The price for loan commitments to business often consists of a fee, which is set as an annual percentage rate of the unused portion of the loan commitment. These fees, referred to as facility fees, are usually paid at regular intervals during the life of the commitment contract.[10] During most of the 1960s, the most frequent facility fee was 1/4 percent per year on the unused portion of the commitment.[11] From time to time during periods of credit stringency this fee was raised to 1/2 percent. However, in at least one instance in 1974 the fee was lowered on the unused portion, so as to discourage takedowns, and an additional fee was levied on the entire commitment.

In recent years, the facility fee has increased along with interest rates and has become more flexible. For example, during the tight money period of 1974, several money center banks maintained a 1/2 percent fee on the unused portion of commitments while setting an additional 1/4 percent fee on the *total* amount of new or renewed commitments. This pricing policy had the effect of raising the price on total commitments, thus limiting total potential borrowing while not encouraging takedowns. If the fee had been raised solely on unused commitments with no change in the price of new or renewed commitments, banks would have been encouraging takedowns at current interest rates while not restraining total outstanding commitments. During the same period, banks faced heavy loan demand and were subjected to an artificial ceiling on the prime rate set by the CID. Consequently, they needed to reduce actual as well as potential loan takedowns. This pricing policy was designed to curtail potential takedowns by making commitments more expensive while not encouraging actual takedowns on outstanding commitments by leaving the fee on the unused portion unchanged.

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[10] Sometimes a bank will charge a base fee for establishing the commitment and supplementary facility fees or compensating balances related to the total commitment and amount of the takedown.

[11] Randall C. Merris, "Loan Commitments and Facility Fees," Federal Reserve Bank of Chicago, *Economic Perspectives*, vol. 2 (March-April 1978), p. 17.

The pricing of takedowns on loan commitments has developed from a simple reliance on a prime rate or "prime rate plus" with a compensating balance to a sophisticated strategy designed to enhance the bank's profitability. Today, most loans are made with a floating- or variable-rate feature (about two-thirds of all business loans at major banks) with an interest rate formula reflecting the bank's cost of funds and the cost of alternative sources of funds for the borrower. Also, the maturity, security, and other terms of the loan contract (such as convenants on working capital) are negotiated with the borrower and are established according to the circumstances of the customer. In this regard, business lending remains a "personalized" service.

A development in bank loan pricing during the period of slack loan demand in 1976-77 was the offering of a below-prime interest rate to large borrowers of exceptionally high credit quality who were also borrowers in the commercial paper market. Because of the downward stickiness of the prime rate in times of slack loan demand and wide corporate participation in the commercial paper market, some money center banks found they were losing loan customers to the commercial paper market. To entice these borrowers back to banks, several money center banks began to offer loan commitments at a below-prime rate on takedowns.12/ Since it is customary for commercial paper borrowers to back up their borrowing by loan commitments or standby letters of credit, the loan commitment fee and compensating balance were required regardless of where the corporate customers borrowed.

With present bank pricing practices relying on floating-rate loans, a significant interest rate risk to individual banks is not likely to arise from loans made under commitments. The interest rate risk from loan commitments may be moderate when compensating balances are used as the commitment fee and are rigidly enforced (that is, imposed on fully collected balances less required reserves) because the compensating balance factor is fixed. When a fixed proportional fee is charged on the daily average unused portion of the commitment, the bank may face

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12. Randall C. Merris, "Prime Rate Update," Federal Reserve Bank of Chicago, Economic Perspectives, vol. 2 (May-June 1978), pp. 14-16.

slightly greater interest rate risk in times of rising market rates. The extent of this risk depends on the lag in changes in fees in response to changes in interest rates. Also, in periods of rapid and unanticipated increases in interest rates, substantial interest rate risk may arise from loans with fixed rates.

Takedown Risk of Loan Commitments

As has been mentioned, a major risk to banks from loan commitments is that associated with simultaneous demand for takedowns by many borrowers. If these commitments are not honored, borrowers may bring legal action against the banks that could result in judgment losses and adverse effects on their credibility and future business. Therefore, in tight money periods banks may be forced to borrow heavily in the money markets or to liquidate other assets, potentially up to the full amount of all loan commitments, to finance demands for takedowns.

When loan commitments were less prevalent and less formal, a bank could turn away a potential borrower on the grounds that the borrower's creditworthiness had deteriorated. However, now that loan commitment contracts are more formal, loan commitment fees and interest rates play a greater role in rationing credit. This credit-rationing role suggests that lending rates may have to increase more during tight money periods than previously and that the risk of assembling financing during tight money periods will be shifted from the borrowers to the banks. This process may yield benefits because banks may be more efficient than nonbank borrowers in assembling funds. However, under the present system of loan commitments, banks bear more risk than previously, but with fee-based compensation rather than compensation in the form of an intangible "customer relationship."

The heavy reliance of business lending on loan commitments is demonstrated by the ratio of outstanding commercial and industrial loans taken down under commitments to the total of such loans outstanding for banks reporting on the Board's monthly Loan Commitment

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13. The Board's Loan Commitment Survey currently has 134 respondent banks that made more than 55 percent of the total outstanding domestic commercial and industrial loans of insured commercial banks as reported in the June 1977 Reports of Condition.

Survey (table 2).13/ These data indicate that since July 1973 between 76 and 87 percent of the dollar amount of outstanding commercial and industrial loans at large banks has been made under commitments. With some exceptions, comparable data before 1973 are unavailable; such data as are available indicate that the proportion of outstanding commercial and industrial loans made under commitments grew rapidly during the period between 1969 and 1973.14/ The ratio of such loans outstanding under commitments to their total reached a high of 87 percent during the tight money period of 1974.

Takedowns of loans under commitment follow a strong cyclical pattern, as might be expected. To illustrate, data in table 1 show this cyclical performance since January 1975, and chart 1 shows similar results for a single money market bank for the period 1960 to March 1972.15/ Also chart 2 shows the same cyclical performance for the 134 large banks reporting on the Loan Commitment Survey. These data suggest that as tight money conditions develop and market interest rates rise, borrowers generally rely on banks as their primary source of financing and draw down loan commitments. Under such conditions, banks are approached simultaneously by many borrowers for extensions of credit under their loan commitments. Banks therefore are compelled to lend at the negotiated interest rates while being forced to borrow wherever possible at the prevailing high market rates. Money center banks with many alternative opportunities for financing may not experience serious liquidity problems during periods of sharp increases in loan demand. However, some regional banks (large banks outside money centers) without as many alternative sources of funds may have difficulty raising funds, and then only at high cost, and as a result could face severe liquidity and earnings problems. Such experiences as the two-tier rate on CDs and a higher loan rate at regional banks than at money center banks, which appeared during the tight money period of 1974, point up the differential effect of loan commitment risks.

Because borrowers with loan commitments may not hesitate to use them during a credit crunch, banks may have little discretion over the volume of outstanding business loans taken down under commitments except through the interest rate mechanism. Thus the prime rate must keep pace with market rates and with the cost of money to banks. When the prime rate is subjected to an artificial ceiling, as it was by the Committee on Interest and Dividends, it cannot perform as an effective credit-rationing mechanism at a time when banks are most in need of one. The result may be substantial

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14. Summers, " Loan Commitments to Business," p. 22.

15. Higgins, "Loan Commitments."

overextension of credit at rates that do not yield an adequate profit margin to sustain profitable and sound bank operations and at rates that do not foster stability in overall economic activity.

Regional banks particularly may find meeting their loan commitments burdensome during tight money periods. These banks compete for business borrowers among the nation's largest firms and larger regional businesses. Consequently, they have lending requirements that are similar to those of the money center banks without their access to broad-based foreign and domestic sources of funds. On the other hand, regional banks make a smaller proportion of their total loans under commitments than do money center banks. The ratio of takedowns to outstanding commercial and industrial loans at banks with total domestic banking assets of $1 billion to $5 billion, a reasonable proxy for regional banks, is substantially less than that for banks with more than $5 billion in total domestic assets, a proxy for money center banks (table 2). For example, as of October 1980 74 percent of outstanding commercial and industrial loans at regional banks were takedowns from commitments; the ratio for money center banks was 86 percent. Even in September 1974, when money was at its tightest for the period covered here, the ratio of takedowns to total commercial and industrial loans at regional banks was 82 percent while it was 91 percent for money center banks. Also, as the data in table 2 demonstrate, smaller banks, those with less than $1 billion in domestic assets, rely less on loan commitments than do the larger regional and money center banks.

On average, takedown rates on loan commitments for regional banks are slightly lower than those for money center banks. The cyclical variation is similar, however: It ranged from 0.48 in September 1974 to 0.34 in August 1980 for regional banks compared with 0.50 in September 1974 and 0.33 in June 1980 for money center banks (table 1 and chart 2). The main difference is that cyclical swings could prove more troublesome for regional bank liquidity.

MONETARY POLICY IMPLICATIONS OF BANK LOAN COMMITMENTS

The Board has been concerned that loan commitments may result in a loss of the flexibility of monetary policy to restrain the rate of growth of bank credit, monetary aggregates, and inflation when loan demand is strong.16/ In a banking system in which business lending is conducted primarily under bank loan commitments, the rate of growth of bank credit is determined principally by the rate of growth in the demand for credit and the interest rate on takedowns. In such a system, rationing of bank credit by quantity limitations is of little importance. As a result, the most immediate effect of efforts to control the growth of the monetary aggregates by controlling the availability of reserves to the banking system may be on the rate of growth of bank credit via the rate of increase in interest rates.

When most business loans are made under commitments, the short-run interest rate elasticity of the demand for these loans will determine the proportionate reduction in the amount demanded as market interest rates increase. Banks are likely to meet strong loan demand by borrowing in the open market via CDs, federal funds, commercial paper, repurchase agreements, and so forth, and the interest rates on these instruments will likely increase. If the demand for business loans is not interest rate elastic in the short run, then large and sustained increases in money market rates and in the prime rate may be necessary to maintain the desired control of bank credit and the monetary aggregates.

The predominance of loan commitments in bank lending in the 1970s may have altered the short-run impact of changes in monetary policy by reducing the extent of nonprice credit rationing in tight money periods. In the absence of loan commitments banks might respond to a restrictive monetary policy by nonprice rationing of credit so that the volume of credit outstanding would respond rapidly to changes in monetary policy without large changes in interest rates. However, with loan commitments and an interest-inelastic demand for credit in the short run, rates will rise rapidly as takedowns increase with a growing loan demand. These arguments suggest that the same control of the monetary aggregates might be achieved by promoting larger and more rapid increases in interest rates when monetary restraint is desired.

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16. See, for example, Arthur F. Burns, "Maintaining Soundness of Our Banking System" (address at the 1974 American Bankers Association Convention, Honolulu, Hawaii, October 21, 1974; processed).

The review of the literature has revealed the need for basic research on the demand and supply interest rate elasticities for loan commitments and takedowns. The data required for estimating the supply and demand for loan commitments are the terms of the commitments--maximum amount, fee structure, compensating-balance arrangements, and maturity--and the associated terms on takedowns of these contracts. These data would permit study of differences in loan commitment arrangements and lending terms between small and large banks and improved estimates of the aggregate supply and demand for bank lending.

SUPERVISORY ISSUES IN THE REGULATION OF BANK LOAN COMMITMENTS

The Board, the Comptroller of the Currency, and the Federal Deposit Insurance Corporation have no regulations regarding loan commitments except for those concerning direct extensions of credit. For example, the Board's regulations are silent on loan commitments, while the Comptroller in the _Manual for National Banks_ (1973) states that "the making and management of agreements of this nature [letters of credit and loan commitments] will require the exercise of prudent judgment to prevent the creation of loans in excess of the lending limit."17/ However, later editions of this _Manual_ do not mention loan commitments. Clearly, a prudent bank management would not make a loan commitment to a single borrower that exceeded statutory lending limits. However, because no regulation prevents it, such overextensions may in fact occur.

Of its nature, a loan commitment that exceeds the bank's lending limit opens up the possibility that an actual loan will exceed those limits. If the borrower decides to take down the commitment, the bank will have to choose between violating federal law--the statutory lending limits--or violating the loan commitment contract and thus exposing itself to a lawsuit. One remedy open to the bank is a loan participation agreement, which circumvents violations of statutory lending limits. However, in periods of tight money, when borrowers

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17. Comptroller of the Currency, _Comptroller's Manual for National Banks_, Department of the Treasury (1973).

will normally rely on their credit lines and loan commitments, only a few banks may be willing to accept participations with other banks because their primary obligation is to their own customers. Unrestrained by bank regulation, less prudent banks could overextend their lines of credit and other loan commitments, which could jeopardize their soundness.

No evidence exists on either the frequency or the volume of loan commitments that exceed statutory lending limits. Thus the extent of the practice is unknown. Bank examiners are required to comment on contingent liabilities including loan commitments, to record loan commitment data on their worksheets, and to express any concerns of potential problems arising from these commitments. But the bank regulatory agencies have no uniform examination policy regarding loan commitments.

Bank regulation and examination procedures ought to state clearly the importance of avoiding loan commitments in excess of statutory lending limits. Section 8(b)-(d) of the Federal Deposit Insurance Act gives the Board the power to issue cease-and-desist orders to any state member bank that the Board has reason to believe engages in unsafe or unsound banking practices. Thus, the Board could specify that state member banks may not make loan commitments in excess of statutory lending limits for the aggregate or for individual borrowers (it made an analogous rule in the case of standby letters of credit in section 208.8(c) of Regulation H). Any excess would constitute an unsound banking practice. However, an exception could permit the commitment to exceed the limits on lending if prior participation agreements acted to keep a bank's individual potential liability within the legal lending limits.18/

The aggregate volume of loan commitments extended by an individual bank should also be a subject of concern for bank examination policy and procedure. Like appropriate bank capital requirements, the precise amount of loan commitments that constitute an unsafe or unsound banking practice is not readily apparent because, to a great extent, the risk of loan commitments depends on the

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18. Section 23A of the Federal Reserve Act, as amended, is also silent on loan commitments. In this case the statute refers to companies "affiliated" with the bank. However, loan commitments in excess of lending limits to "affiliated" companies may be just as damaging to bank soundness as those to unaffiliated companies.

likelihood of large, simultaneous takedowns without sufficient warning for the bank to arrange alternative financing at profitable terms. Rapid, unanticipated extensions of credit place a strain not only on a bank's ability to finance the credit but also on its capital because of the potential for reduced earnings resulting from a greater cost of funds--a heavy reliance on high-cost borrowed money--and loan-loss exposure. However, setting regulatory standards for total outstanding loan commitments may do more harm than good for the majority of banks if the result is a restriction of credit at a time, such as during stringent monetary policy conditions, when the financial system needs maximum flexibility.

Bank loan commitments present unique problems to the Federal Deposit Insurance Corporation (FDIC) in the liquidation or assumption of a failed bank. A bank assuming the assets and liabilities of a failed bank is usually willing to accept outstanding loans but may not accept loan commitment contracts. Also, the FDIC has taken the position that it is not responsible for commitment contracts on loans that it will liquidate unless the quality of the existing credit is endangered, such as in a construction loan contract. Beyond this exception, the borrower is treated as a general creditor and must sue the FDIC to honor the contract. These policies leave the typical borrower with a loan commitment from a failed bank with the alternatives of renegotiating a loan commitment with a bank that has assumed its loan, with another bank, or suing the FDIC to honor the previous commitment. Because the assuming bank usually takes the best loans, the FDIC is left with borrowers that may be poor credit risks or have unique borrowing needs. In either case, a borrower may have few alternative sources of loan commitments and may have little recourse but litigation.

This policy of the FDIC could result in substantial borrower dislocation from the failure of a single large bank or many small ones for which assumptions cannot be readily negotiated. In these instances the FDIC must shoulder the administration of many bank loans from borrowers who may need to rely on the previously contracted loan commitment agreements. If few alternative sources of credit are available to these borrowers, the decision of the FDIC not to honor the loan commitments may endanger the financial condition of the borrowers, which could result in defaults and greater losses to the FDIC.

A recent Court of Appeals decision found that the FDIC has an obligation to honor contracts for standby letters of credit.19/ From a legal standpoint, standby letters of credit are contingent liabilities of the bank, which are payable to a third party on the occurrence of specified events, whereas loan commitments do not involve a third party. However, from an economic point of view both are contingent liabilities of the bank, resulting in a loan from the bank to the maker of the contract when the contract is exercised, and both are important contingent sources of funds to borrowers. The principal economic difference between a loan commitment and a standby letter of credit is that a loan commitment may be taken down at the volition of the borrower and is, thus, more flexible than a standby letter of credit. Consequently, there are strong arguments for loan commitments to be treated the same as standby letters of credit by the FDIC in administering bank liquidations.

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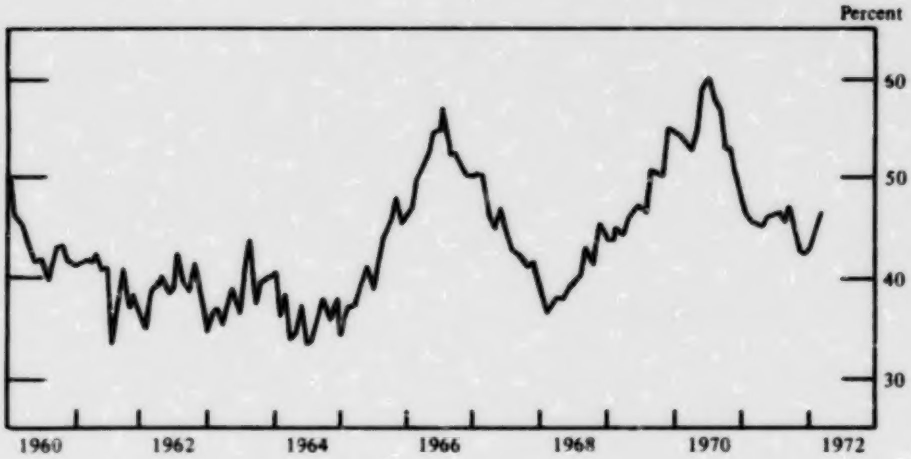
19. First Empire Bank v. Federal Deposit Insurance Corporation, 572 F.2d 1361 (1978). On October 17, 1978, the Supreme Court refused to grant a review, thus upholding the decision of the Court of Appeals.

1. Ratio of total borrowings under commitments to total commitments, monthly, 1960–72



Source: Mellon Bank, Credit Division and Economics and Corporate Planning Office.

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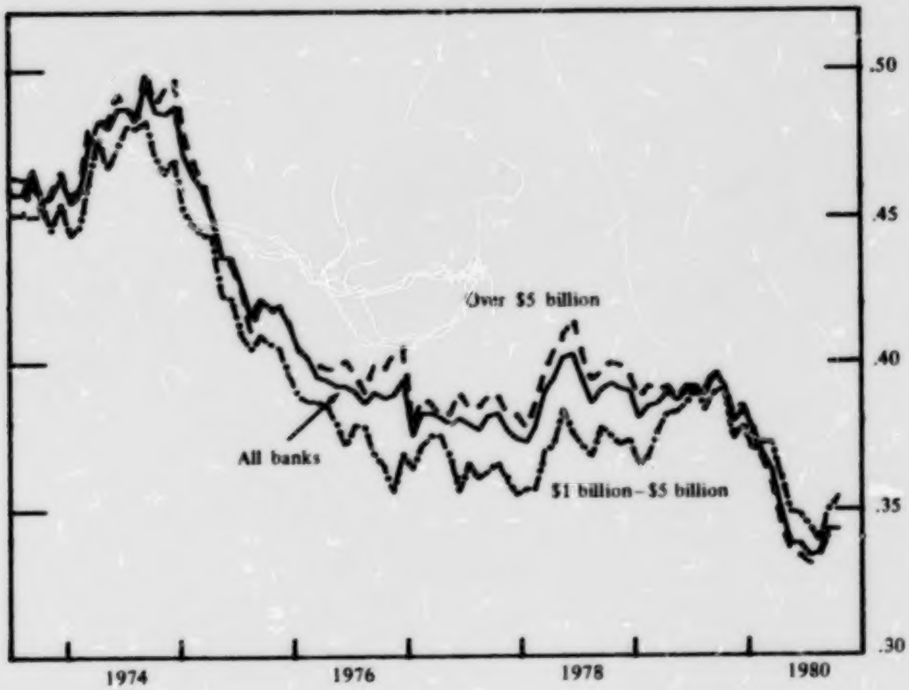
2. Takedown rates on commercial and industrial loans, by size of bank, monthly, July 1973–June 1979



Source. Federal Reserve Loan Commitment Surveys.

BEST DOCUMENT AVAILABLE

1. Total commitments and the ratio of takedowns to commitments for commercial and industrial loans, by asset size class of bank, July 1973-May 1980

Date	Size class							
	$100 million to $1 billion		$1 billion to $5 billion		More than $5 billion		All banks	
	Total commitments (millions of dollars)	Takedowns to commitments	Total commitments (millions of dollars)	Takedowns to commitments	Total commitments (millions of dollars)	Takedowns to commitments	Total commitments (millions of dollars)	Takedowns to commitments
1973								
July	10.7	.4702	44.9	.4638	87.4	.4506	146.2	.4582
Aug.	9.8	.4747	45.8	.4628	90.6	.4509	149.3	.4580
Sept.	10.0	.4773	45.2	.4635	91.1	.4650	149.3	.4669
Oct.	9.6	.4715	44.9	.4552	94.6	.4511	152.1	.4555
Nov.	9.7	.4682	47.0	.4461	95.4	.4591	155.2	.4574
Dec.	9.3	.4745	48.0	.4549	95.7	.4658	156.1	.4643
1974								
Jan.	9.9	.4592	50.4	.4436	93.7	.4579	157.2	.4550
Feb.	9.6	.4621	51.0	.4475	95.7	.4600	159.4	.4579
Mar.	9.3	.4648	50.2	.4625	100.7	.4800	163.6	.4754
Apr.	9.4	.4819	50.7	.4766	102.3	.4818	165.9	.4819
May	8.8	.4863	52.2	.4674	103.3	.4830	167.8	.4801
June	9.7	.4842	52.1	.4736	104.8	.4916	170.0	.4872
July	10.1	.4869	51.9	.4806	107.7	.4879	173.1	.4874
Aug.	9.5	.4843	53.0	.4805	110.5	.4810	176.5	.4851
Sept.	9.5	.4896	54.3	.4825	109.8	.5003	176.4	.4960
Oct.	9.2	.4802	54.2	.4709	110.5	.4891	175.7	.4859
Nov.	9.0	.4823	54.7	.4648	111.1	.4936	176.6	.4848
Dec.	8.5	.4796	55.8	.4696	113.1	.4966	179.2	.4880
1975								
Jan.	9.3	.4701	56.6	.4520	113.8	.4781	199.0	.4715
Feb.	9.9	.4563	56.4	.4471	111.7	.4690	197.2	.4642
Mar.	10.1	.4481	57.5	.4438	110.2	.4623	196.8	.4587
Apr.	9.4	.4251	57.6	.4426	113.6	.4497	198.8	.4499
May	9.8	.4283	59.8	.4232	110.6	.4367	198.5	.4361
June	10.5	.4295	59.3	.4219	111.5	.4327	198.9	.4355
July	10.5	.4175	60.2	.4099	111.8	.4258	199.6	.4269
Aug.	11.0	.4156	60.0	.4050	111.5	.4110	199.9	.4156
Sept.	11.0	.4168	61.2	.4088	111.7	.4197	201.5	.4219
Oct.	10.7	.4100	61.6	.4074	111.8	.4184	201.3	.4191

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1. Continued

	Size class							
	$100 million to $1 billion		$1 billion to $5 billion		More than $5 billion		All banks	
Date	Total commitments (millions of dollars)	Takedowns to commitments	Total commitments (millions of dollars)	Takedowns to commitments	Total commitments (millions of dollars)	Takedowns to commitments	Total commitments (millions of dollars)	Takedowns to commitments
1975								
Nov.	10.4	.4067	62.5	.4052	111.7	.4201	201.9	.4194
Dec.	8.6	.4109	60.1	.3956	117.4	.4144	203.5	.4133
1976								
Jan.	10.7	.3963	59.8	.3888	115.2	.4047	202.9	.4042
Feb.	10.7	.3948	59.9	.3867	114.0	.4024	201.4	.4022
Mar.	11.4	.3899	59.6	.3865	129.9	.4000	200.9	.3954
Apr.	11.2	.3905	59.0	.3851	129.3	.3977	199.5	.3936
May	11.8	.3826	58.8	.3800	128.3	.3978	198.8	.3917
June	10.6	.3865	58.0	.3724	131.8	.4014	200.4	.3922
July	11.7	.3750	59.4	.3795	125.9	.3965	197.0	.3900
Aug.	11.0	.3830	60.1	.3776	127.3	.3902	198.4	.3860
Sept.	11.7	.3828	58.6	.3687	130.1	.3996	200.4	.3896
Oct.	10.0	.3962	59.3	.3652	132.7	.3977	202.0	.3881
Nov.	9.7	.3983	60.4	.3562	133.3	.4030	203.4	.3889
Dec.	10.0	.3937	61.0	.3694	132.6	.4049	203.5	.3937
1977								
Jan.	10.1	.3840	60.6	.3637	132.6	.3794	203.2	.3750
Feb.	9.0	.3909	62.1	.3723	131.7	.3876	202.9	.3831
Mar.	9.6	.3914	62.8	.3749	132.7	.3861	205.1	.3829
Apr.	9.5	.4009	62.9	.3752	131.1	.3819	203.5	.3806
May	9.7	.3936	63.6	.3680	130.6	.3828	203.8	.3787
June	9.8	.3944	60.0	.3563	134.7	.3904	204.5	.3806
July	9.4	.3993	65.9	.3657	130.9	.3841	206.3	.3789
Aug.	8.9	.3938	63.0	.3604	136.4	.3840	208.2	.3773
Sept.	9.0	.4024	64.0	.3626	136.8	.3890	209.8	.3815
Oct.	9.5	.4092	63.8	.3663	139.5	.3889	212.8	.3831
Nov.	8.9	.4071	67.7	.3596	139.9	.3830	216.5	.3767
Dec.	8.6	.4045	66.6	.3548	142.7	.3817	217.9	.3744
1978								
Jan.	9.0	.4039	66.4	.3570	143.7	.3778	219.1	.3726
Feb.	8.5	.4186	67.6	.3565	144.5	.3861	220.5	.3783
Mar.	8.6	.4182	67.6	.3702	142.4	.3973	218.6	.3897

BEST DOCUMENT AVAILABLE

1. **Continued**

Date	Size class							
	$100 million to $1 billion		$1 billion to $5 billion		More than $5 billion		All banks	
	Total commitments (millions of dollars)	Takedowns to commitments	Total commitments (millions of dollars)	Takedowns to commitments	Total commitments (millions of dollars)	Takedowns to commitments	Total commitments (millions of dollars)	Takedowns to commitments
1978								
Apr.	8.4	.4263	68.8	.3717	147.2	.4035	224.4	.3946
May	7.2	.4154	66.5	.3840	153.9	.4087	227.6	.4017
June	8.0	.4142	69.4	.3762	151.8	.4148	229.1	.4031
July	8.2	.4082	72.5	.3721	153.0	.4032	233.7	.3937
Aug.	7.6	.4057	73.9	.3679	157.2	.3941	238.7	.3864
Sept.	7.4	.4019	75.0	.3776	158.5	.3968	240.9	.3910
Oct.	6.6	.4057	74.3	.3747	161.9	.4002	242.8	.3926
Nov.	6.4	.3982	74.7	.3715	167.4	.3986	248.5	.3905
Dec.	4.4	.4357	74.9	.3739	173.9	.3953	253.2	.3897
1979								
Jan.	4.7	.3948	74.8	.3650	173.0	.3879	252.5	.3812
Feb.	4.7	.3872	75.7	.3677	174.6	.3920	254.9	.3847
Mar.	4.8	.3814	75.1	.3770	180.8	.3898	260.7	.3860
Apr.	3.9	.3820	75.2	.3834	183.9	.3922	263.1	.3895
May	4.0	.3905	69.2	.3820	193.4	.3880	266.5	.3869
June	4.1	.3885	75.6	.3856	191.6	.3921	271.2	.3902
July	3.5	.3987	77.1	.3909	190.1	.3920	270.7	.3918
Aug.	3.4	.3870	78.8	.3840	195.3	.3911	277.5	.3891
Sept.	3.2	.3884	74.6	.3899	205.4	.3983	283.2	.3960
Oct.	3.5	.3896	73.4	.3914	212.2	.3921	289.1	.3919
Nov.	4.1	.4030	76.0	.3737	219.1	.3817	299.2	.3800
Dec.	1.2	.3988	78.6	.3792	228.0	.3854	307.8	.3838
1980								
Jan.	1.7	.4612	81.5	.3699	[illegible]	.3789	312.0	.3770
Feb.	1.9	.4560	82.4	.3728	[illegible]	.3669	321.4	.3690
Mar.	3.2	.3860	81.8	.3725	250.6	.3594	335.6	.3629
Apr.	2.8	.4360	83.2	.3609	256.7	.3443	342.7	.3491
May	1.4	.3285	85.1	.3487	258.2	.3339	344.7	.3375

Source: Loan Commitment Survey, Board of Governors of the Federal Reserve System, various dates.

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2. Ratios of takedowns to commitments for commercial and industrial loans and ratios of total commitments to loans, by asset size class of bank, July 1973–May 1980

	Size class							
	$100 million to $1 billion		$1 billion to $5 billion		More than $5 billion		All Banks	
Dates	Takedowns to C&I Loans	Total commitments to C&I loans	Takedowns to C&I Loans	Total commitments to C&I loans	Takedowns to C&I loans	Total commitments to C&I loans	Takedowns to C&I loans	Total commitments to C&I loans
1973								
July	.6240	1.3272	.7827	1.6874	.9078	2.0145	.8358	1.8319
Aug.	.6197	1.3057	.7645	1.6521	.8981	1.9917	.8263	1.8113
Sept.	.6263	1.3123	.7630	1.6464	.9136	1.9647	.8359	1.7962
Oct.	.6177	1.3100	.7767	1.7063	.9049	2.0061	.8371	1.8453
Nov.	.6161	1.3159	.7849	1.7594	.9203	2.0048	.8487	1.8626
Dec.	.6402	1.3494	.7819	1.7190	.9103	1.9544	.8452	1.8261
1974								
Jan.	.6306	1.3731	.7756	1.7485	.9026	1.9714	.8353	1.8428
Feb.	.6414	1.3881	.7714	1.7237	.9170	1.9936	.8435	1.8497
Mar.	.6417	1.3804	.7848	1.6968	.9253	1.9277	.8567	1.8088
Apr.	.6499	1.3486	.7888	1.6553	.9097	1.8880	.8496	1.7693
May	.6624	1.3620	.7843	1.6779	.9050	1.8738	.8475	1.7722
June	.6689	1.3813	.7966	1.6822	.9063	1.8436	.8529	1.7567
July	.6719	1.3802	.8019	1.6686	.8990	1.8424	.8507	1.7518
Aug.	.6633	1.3696	.8060	1.6774	.9033	1.8781	.8546	1.7766
Sept.	.6616	1.3515	.8192	1.6976	.9133	1.8255	.8650	1.7505
Oct.	.6499	1.3535	.7964	1.6912	.9011	1.8422	.8499	1.7597
Nov.	.6728	1.3951	.7825	1.6836	.8982	1.8198	.8461	1.7482
Dec.	.6655	1.3878	.7953	1.6937	.9061	1.8245	.8554	1.7555
1975								
Jan.	.6779	1.4421	.7970	1.7631	.8988	1.8802	.8514	1.8137
Feb.	.6560	1.4377	.8028	1.7956	.8745	1.8646	.8362	1.8125
Mar.	.6693	1.4937	.7627	1.7187	.8862	1.9167	.8289	1.8196
Apr.	.6127	1.4415	.7921	1.7897	.8662	1.9264	.8249	1.8490
May	.6342	1.4805	.7744	1.8301	.8628	1.9579	.8166	1.8914
June	.6470	1.5063	.7829	1.8556	.8711	2.0133	.8246	1.9223
July	.6310	1.5114	.7748	1.8905	.8656	2.0330	.8173	1.9459
Aug.	.6421	1.5452	.7736	1.9103	.8502	2.0689	.8081	1.9746
Sept.	.6471	1.5528	.7933	1.9408	.8653	2.0617	.8242	1.9819
Oct.	.6360	1.5514	.7865	1.9306	.8701	2.0794	.8238	1.9888

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2. Continued

	Size class							
	$100 million to $1 billion		$1 billion to $5 billion		More than $5 billion		All Banks	
Date	Takedowns to C&I Loans	Total commitments to C&I loans	Takedowns to C&I Loans	Total commitments to C&I loans	Takedowns to C&I loans	Total commitments to C&I loans	Takedowns to C&I loans	Total commitments to C&I loans
1975								
Nov.	.6485	1.5945	.7876	1.9438	.8577	2.0418	.8190	1.9769
Dec.	.6351	1.5458	.7721	1.9515	.8287	2.0000	.7990	1.9576
1976								
Jan.	.6369	1.6072	.7378	1.8975	.8453	2.0887	.7942	1.9899
Feb.	.6283	1.5917	.7349	1.9008	.8436	2.0966	.7910	1.9933
Mar.	.6512	1.6707	.7422	1.9204	.8555	2.1386	.8057	2.0374
Apr.	.6654	1.7041	.7317	1.9000	.8602	2.1629	.8061	2.0481
May	.6640	1.7355	.7195	1.8937	.8650	2.1743	.8043	2.0536
June	.6694	1.7320	.7027	1.8871	.8702	2.1683	.8049	2.0524
July	.6487	1.7300	.7190	1.8950	.8608	2.1710	.7996	2.0500
Aug.	.6487	1.6934	.7250	1.9199	.8591	2.2016	.8009	2.0749
Sept.	.7026	1.8355	.7117	1.9301	.8603	2.1532	.8035	2.0626
Oct.	.6779	1.7109	.7003	1.9173	.8637	2.1718	.8009	2.0637
Nov.	.6716	1.6864	.6867	1.9279	.8638	2.1433	.7968	2.0489
Dec.	.6863	1.7433	.7028	1.9028	.8498	2.0989	.7939	2.0165
1977								
Jan.	.6410	1.6694	.7018	1.9301	.8313	2.1910	.7781	2.0753
Feb.	.6552	1.6761	.7139	1.9177	.8384	2.1631	.7875	2.0559
Mar.	.6771	1.7297	.7217	1.9252	.8342	2.1604	.7886	2.0594
Apr.	.6714	1.6748	.7126	1.8996	.8176	2.1409	.7746	2.0346
May	.6621	1.6825	.6991	1.8996	.8218	2.1470	.7716	2.0376
June	.6623	1.6794	.6860	1.9252	.8121	2.0800	.7648	2.0096
July	.6765	1.6941	.7050	1.9281	.8183	2.1306	.7723	2.0383
Aug.	.6905	1.7537	.7056	1.9578	.8143	2.1206	.7737	2.0507
Sept.	.6996	1.7385	.7126	1.9657	.8228	2.1154	.7816	2.0488
Oct.	.6807	1.6638	.7174	1.9588	.8202	2.1088	.7805	2.0376
Nov.	.7039	1.7286	.6999	1.9463	.8185	2.1372	.7737	2.0543
Dec.	.7297	1.8042	.6959	1.9618	.7994	2.0942	.7634	2.0392
Jan.	.7234	1.7911	.7013	1.9647	.8209	2.1729	.7777	2.0876
Feb.	.7356	1.7575	.6926	1.9426	.8346	2.1618	.7837	2.0718

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2. Continued

	Size class							
	$100 million to $1 billion		$1 billion to $5 billion		More than $5 billion		All Banks	
Date	Takedowns to C&I Loans	Total commitments to C&I loans	Takedowns to C&I Loans	Total commitments to C&I loans	Takedowns to C&I loans	Total commitments to C&I loans	Takedowns to C&I loans	Total commitments to C&I loans
1978								
Mar.	.6946	1.6612	.7020	1.8961	.8295	2.0882	.7814	2.0051
Apr.	.6992	1.6405	.6921	1.8621	.8706	2.1578	.8028	2.0347
May	.6465	1.5562	.7017	1.8275	.8596	2.1034	.8006	1.9932
June	.6555	1.5825	.6932	1.8430	.8723	2.1032	.8029	1.9952
July	.6568	1.6090	.7011	1.8846	.8750	2.1704	.8066	2.0490
Aug.	.6693	1.6497	.7014	1.9064	.8701	2.2080	.8049	2.0834
Sept.	.6617	1.6463	.7154	1.8948	.8693	2.1911	.8090	2.0693
Oct.	.6686	1.6481	.7067	1.8859	.8644	2.1596	.8053	2.0512
Nov.	.6465	1.6236	.7185	1.9340	.8630	2.1650	.8094	2.0728
Dec.	.6460	1.4827	.7236	1.9356	.8629	2.1830	.8132	2.0868
1979								
Jan.	.7075	1.7921	.7160	1.9615	.8722	2.2487	.8179	2.1454
Feb.	.6914	1.7858	.7153	1.9455	.8687	2.2161	.8152	2.1192
Mar.	.6908	1.8116	.7100	1.8833	.8879	2.2777	.8254	2.1385
Apr.	.6558	1.7168	.7186	1.8744	.8758	2.2329	.8212	2.1082
May	.6843	1.7527	.7169	1.8720	.8532	2.1990	.8105	2.0959
June	.6829	1.7577	.7226	1.8741	.8632	2.2019	.8163	2.0920
July	.6702	1.6809	.7294	1.8661	.8522	2.1739	.8105	2.0689
Aug.	.6560	1.6953	.7313	1.9043	.8617	2.2033	.8178	2.1020
Sept.	.6684	1.7208	.7352	1.8858	.8619	2.1637	.8225	2.0770
Oct.	.6753	1.7331	.7350	1.8778	.8637	2.2028	.8244	2.1035
Nov.	.7350	1.8240	.7353	1.9675	.8733	2.2879	.8321	2.1898
Dec.	.6041	1.5148	.7400	1.9517	.8658	2.2466	.8288	2.1592
1980								
Jan.	.8124	1.7614	.7454	2.0152	.8619	2.2746	.8284	2.1972
Feb.	.7991	1.7526	.7519	2.0167	.8528	2.3243	.8238	2.2326
Mar.	.6917	1.7921	.7582	2.0353	.8732	2.4295	.8391	2.3124
Apr.	.7845	1.7994	.7292	2.0205	.8641	2.5095	.8250	2.3631
May	.5438	1.6552	.7304	2.0945	.8575	2.5685	.8193	2.4275

Source: Loan Commitment Survey and Weekly Report of Condition for Large Banks, Board of Governors of the Federal Reserve System, various dates.

COMMERCIAL LETTERS OF CREDIT AND BANKERS ACCEPTANCES

Michael A. Goldberg

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COMMERCIAL LETTERS OF CREDIT AND BANKERS ACCEPTANCES

This study investigates the manner in which banks employ commercial letters of credit and bankers acceptances in order to determine whether these instruments are used prudently. The commercial letter of credit is distinguished from the standby letter of credit in that it is issued in connection with the direct purchase of merchandise or the presentation of title documents. This study focuses on commercial letters of credit.

The purpose of the letter of credit is to facilitate trade, typically international trade, by substituting the known creditworthiness of the bank for the creditworthiness of the buyer, which may be unknown to the seller. The letter of credit guarantees the exporter payment by the bank when the documents stipulated in the letter are presented to the bank in accordance with the terms of the letter of credit. One such document is the bill of exchange, or draft drawn by the exporter against the bank. This may be a sight draft calling for immediate payment by the bank, or a time draft requesting payment at a specified future date. A bankers acceptance is created when a time draft is presented to the bank by the exporter and the bank stamps the draft "ACCEPTED," thereby promising to pay the bearer of the draft upon its maturity. A bankers acceptance that meets the criteria for eligibility for rediscount with a Federal Reserve Bank, as given in section 13 of the Federal Reserve Act, is a marketable asset, which the exporter can sell. Usually, the accepting bank discounts the draft, and remits cash, to the exporter. The bank then either holds the acceptance in its asset portfolio, in which case it is booked as a loan, or sells the acceptance in an active secondary market. When an acceptance is sold, the bank simultaneously books the asset item "customer's liability to bank" and the liability item "acceptances outstanding." An acceptance is an actual liability of the bank whose purpose is to finance trade. This distinguishes it from a commercial letter of credit, which is a contingent liability of the bank and is not reported on the bank's balance sheet.

At present, a bank's acceptance liabilities are explicitly regulated on an individual and aggregate basis; and banks are required to report the volume of their acceptances outstanding both on their call reports and on the balance sheets of their reports to shareholders. No such regulation governs commercial letters of credit. Although the Office of the Comptroller of the Currency has decided to require all national banks to include this information on their call reports, the Board does not require member banks to report letter-of-credit commitments outstanding on their call reports. Furthermore, this contingent liability never enters a bank's balance sheet.1/ However, letters of credit are implicitly regulated in that time letters of credit--those not requiring payment upon sight of the bill of exchange--become bankers acceptances and are regulated as such.

The data available on bankers acceptances reveal the dramatic growth in bankers' utilization of acceptance financing.2/ From year-end 1965 through year-end 1979, bankers acceptances have grown at an annual rate of 19 percent; moreover, since year-end 1973, bankers acceptances have grown at an annual rate of 27 percent. As of year-end 1979, total U.S. dollar acceptances outstanding amounted to $45.3 billion.

Analysis of the data presented in this study indicates that the largest banks in the United States dominate the markets for letters of credit and bankers acceptances: approximately 99 percent of all such instruments are issued by banks with assets greater than $1 billion; and 84 percent are issued by banks with assets greater than $5 billion. The analysis also indicates that since 1961 (the year call report data became readily available) no bank failure has been the direct result of an overextension of acceptance financing. Banks apparently do not issue excessive amounts of letters of credit or bankers acceptances, for two reasons: (1) the regulatory constraint on the maximum amount of eligible bankers acceptances the bank can have outstanding at any time; and (2) their caution about overextension of these instruments because it would destroy the creditworthiness necessary to keep them economically viable. The dominance of the nation's biggest banks in the use of these instruments demonstrates the high creditworthiness ascribed to them by the market, and perhaps the economies of scale in documentary letters of credit.

This study suggests that the rapid growth in bank acceptance activity may be due to the exclusion of the proceeds of the sale of eligible bankers acceptances from reserve requirements. This exclusion gives banks an incentive to increase their accept-

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1. The Office of the Comptroller of the Currency required this disclosure in Banking Bulletin 78-4 (June 19, 1978).

2. See Federal Reserve Bulletin, various issues, table entitled "Commercial Paper and Bankers Dollar Acceptances Outstanding."

ance activities during periods of tight money and may enable them to circumvent monetary policy objectives. Closing this exclusion, by making acceptances outstanding a reservable liability, may affect the dollar volume of trade as banks raise their acceptance (and confirmation) fees in order to pass through to their customers the cost of maintaining non-interest-earning required reserves against their acceptance liabilities; but any such impact is expected to be slight because alternative sources of financing are available.3/

This study is divided into four major sections. The first describes the various kinds of letters of credit and bills of exchange. A typical trade transaction is traced to illustrate the role of commercial letters of credit and bankers acceptances in the trade process. This section also analyzes the growth of the bankers acceptance market and discusses the attractivenss of this instrument for meeting customers' short-term borrowing needs during periods of tight money. The second section discusses some of the risks to banks of issuing letters of credit and bankers acceptances, and the third provides an empirical analysis of failed banks to determine whether any overextension in the issuance of acceptances contributed to their failure. The final section describes the present regulatory framework of letters of credit and bankers acceptances.

THE LETTER OF CREDIT AND TRADE

The commercial letter of credit is a formal document used to facilitate trade. It is most commonly used when trade takes place between exporters and importers in different countries, but it can also be used to facilitate trade between residents of the United States. In the typical trade transaction the

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3. Banks generally charge a fee of 1/8 of 1 percent per month on their acceptance credits. This fee is not large enough to permit a bank to absorb the costs of maintaining reserves against its acceptance liabilities. To illustrate, consider the case in which the bank must pay an interest rate of 10 percent on its acceptance liabilities and charges 10 1/8 percent to a prime customer. In the present regulatory framework, in which the bank has a zero reserve requirement against this liability, the bank's monthly profit per $100 of acceptances is $0.125. If the bank had to keep a 6 percent reserve, however, its profits would be reduced by 40 percent, to $0.075.

exporter sells to an importer in a foreign country, and has little knowledge of his ability to pay for the goods when they arrive at his home port. The letter of credit is issued by the importer's bank at his request. The issuing bank promises to pay the exporter (the beneficiary) upon his presentation of the documents stipulated in the terms of the letter of credit.4/ The letter of credit works by permitting the exporter to rely on the known creditworthiness of the importer's bank rather than on the unknown creditworthiness of the importer. Minimizing the risk to the exporter of this trade transaction acts to reduce the price he charges the importer, because his price includes an implicit risk premium based on the uncertainty of payment for the goods. As a result, world trade prospers. One of the fundamentals of the letter-of-credit system is that "when distance is involved, banks know each other better--and have better means of appraising each other's creditworthiness--than do sellers and buyers. Also, established lines of communications are more likely to exist between banks, however remote they may be from each other, than between industrial or commercial companies."5/

There are different kinds of commercial letters of credit. For example, a letter of credit may be confirmed or unconfirmed, revocable or irrevocable, negotiable or straight. Appendix A discusses and illustrates some of the differences between letters of credit. It also explains bills of exchange (time and sight drafts) and the way a bankers acceptance is created.

The Typical Trade Transaction

Chart 1 depicts the typical trade transaction, from the initial point, when the goods are first ordered by the importer, to the final steps, when the accepted draft is presented upon maturity

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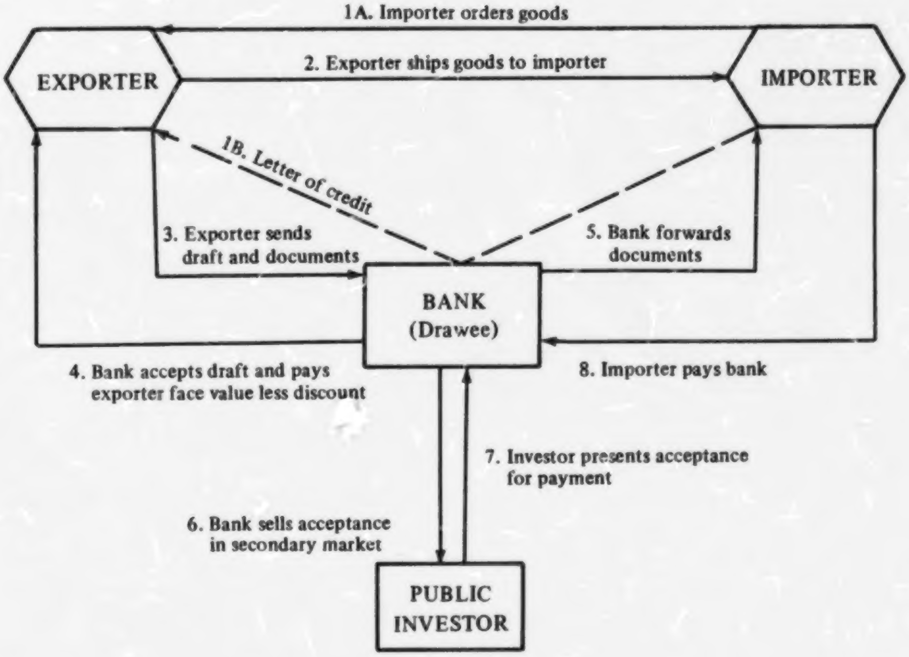
4. In general, the letter of credit includes (1) the names and addresses of the issuing and advising or confirming bank; (2) the names and addresses of the applicant (buyer or importer) and beneficiary (seller or exporter); (3) the amount and currency of the transaction; (4) the date payment is to be made; (5) the expiring date of the credit; and (6) stipulated documents that must accompany the letter of credit when presented to the bank for payment (or acceptance)--for example, commercial invoice, bills of lading, insurance certificates, consular invoice.

5. The Financing of Exports and Imports, Morgan Guaranty Trust Company of New York (1977), p. 3.

1. A typical trade transaction


1A. Importer orders goods
EXPORTER
2. Exporter ships goods to importer
IMPORTER
1B. Letter of credit
3. Exporter sends draft and documents
5. Bank forwards documents
BANK (Drawee)
4. Bank accepts draft and pays exporter face value less discount
8. Importer pays bank
7. Investor presents acceptance for payment
6. Bank sells acceptance in secondary market
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to the drawee bank for payment and that bank is reimbursed by the importer.

From step 1 to step 4 the letter of credit is a contingent liability of the issuing (and confirming) bank that is not reflected on the balance sheets of the obligated bank; similarly, the contingent assets, which reflect the bank's claim against the importer, are not "booked" until the time draft becomes an acceptance. A sight draft, which may be a contingent liability for one or two months while the goods are shipped, never appears on the bank's balance sheet.

Bankers Acceptances

As the preceding discussion suggests, a bankers acceptance may be viewed as a product of the commercial letter of credit.[6] Any time draft accepted by a bank in fulfillment of its commitment on a letter of credit is a bankers acceptance. When an accepted draft is drawn under a negotiable letter of credit, as it generally is, it can be sold readily in the acceptance market of the country in whose currency the draft is denominated; thus it is a highly marketable instrument. Maturities on bankers acceptances are commonly between 30 and 180 days with a mode of 90 days. Because of the active secondary market in acceptances these securities are highly liquid; and they are viewed by the market as safe investments, which generally sell to yield a slight premium over Treasury bills.

Chart 2 compares the interest rates on three-month Treasury bills, ninety-day prime bankers acceptances, and ninety-day certificates of deposit (in the secondary market). Only during periods of extremely tight money (1969-70, 1973-74) is there any sizable spread between Treasury bill rates and bankers acceptance yields. The rates on CDs move closely with those on acceptances.

Bankers Acceptances as "Eligible Paper."

The criteria that make a bankers acceptance eligible for rediscount by a Federal

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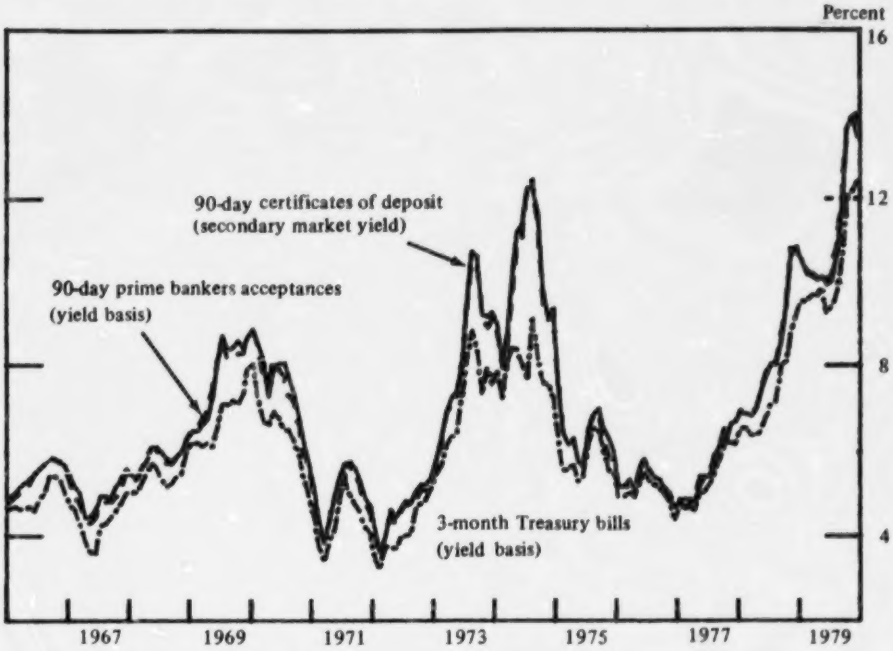
[6] A letter of credit is not necessary to create a bankers acceptance. For example, a bank may use an acceptance for pre-export financing when its customer has a contract to export goods.

2. Money market rates, monthly, 1966–79



Source. *Federal Reserve Bulletin*, various issues, table entitled, "Interest Rates in Money and Capital Markets."

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Reserve Bank are described in section 13 of the Federal Reserve Act, and set out in table 1. In general, an acceptance is eligible if it is used to finance a trade transaction, or to finance a temporary storage of traded goods, and has a term to maturity at the time of discount of not more than 90 days' sight (180 days in the case of agricultural projects)--provided it meets the limitations on amount of section 13.[7] The trade transaction must be evidenced by an actual contract of sale, and the draft must be drawn before the actual shipment of goods under the contract, as when the draft is drawn up in accordance with a letter of credit. Shipping documents (for example, a bill of lading) conveying or securing title to the accepting bank must be attached at the time of acceptance in the case of domestic shipment of goods.

To be eligible for rediscount, an acceptance must also adhere to a "tenor" requirement and fall within the limitation of the aggregate accepted by a member bank. Tenor is the term to maturity at the time of acceptance, which is generally stated in terms of the number of days "sight to run." Even when an acceptance is consistent with the other criteria of section 13, it is ineligible for rediscount if the tenor is in excess of six months. The aggregate of eligible acceptances outstanding of a member bank is limited to 50 percent of the bank's paid-in capital stock and unimpaired surplus. This ceiling can be raised to 100 percent with the permission of the Federal Reserve Board when acceptances arising from foreign trade are involved; but domestic acceptances can never exceed the 50 percent. The aggregate of ineligible acceptances is not subject to limits.

Bankers Acceptances and the FOMC. On April 1, 1974, under authorization of the Federal Open Market Committee (FOMC), the Federal Reserve Bank of New York started buying and selling bankers acceptances in the secondary market for its own account. The acceptances were purchased outright or under repurchase agreements (RPs). Since March 1977, the Bank has been restricted to dealing in RPs and no longer enters the market to buy or sell for its own account.[8] The acceptances the Bank deals in must be "prime" bankers acceptances (in terms of credit risk) that arise from (1) the current shipment of goods between countries or within the United States, or (2) the storage within the United States of goods under contract of sale, or expected to move into the channels of trade within a reasonable time, that are secured through their life by a warehouse receipt or similar document conveying title. These acceptances for RPs may, however, have tenor in excess of the eligibility requirements, up to a maximum of nine months. Therefore, bankers acceptances with tenor of less than six months, which meet the eligibility criteria, can generate bank reserves either by discount with a Federal Reserve Bank or by sale in the acceptance market to the Federal Reserve Bank of New York under a repurchase agreement. Acceptances that are ineligible for discount only because their tenor is longer than six months are still acceptable for open market purchase (under an RP) if their tenor is less than nine months.

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[7] The accepting bank may rely upon the general credit of the customer in acceptance transactions up to 10 percent of its capital and surplus. A member bank may accept for any one customer in excess of this 10 percent limitation when the transaction is secured by attached documents or some other security growing out of the transaction.

To qualify its acceptances for purchase by the Federal Reserve, a bank must establish its name in the market, and its acceptances must be considered of prime quality. A bank may market its acceptances in any manner it chooses; but only when sales are made to dealers reporting to the Acceptance Trading Desk of the Federal Reserve Bank of New York can a bank's sales become known to the Federal Reserve. When a bank's acceptances move in the dealer market, the Federal Reserve can more easily judge the marketability of the paper and whether dealers consider it prime. The Federal Reserve also considers the volume and frequency of market transactions before it adds a bank's name to the "acceptable" list for open market purchases; and the financial condition and reputation of the bank are also important. A bank seeking to

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8. At its March 1977 meeting, the FOMC decided to permit the System's holdings of bankers acceptances to mature and to terminate outright its purchase of these instruments under ordinary circumstances. In taking this action the Committee noted that the market for bankers acceptances was well developed and efficient and no longer in need of support. Also, outright purchases and sales of acceptances had not been large enough to contribute materially to open market operations. The FOMC continued to authorize RPs against acceptances as a useful tool in meeting short-term needs for bank reserves.

qualify its acceptances for purchase by the Federal Reserve must meet other criteria in the form of documentation.9/

Bankers Acceptances and Regulation D. Since July 1973, an eligible bankers acceptance, when not held in the accepting bank's asset portfolio, has been considered a liability that is explicitly exempt from the reserve requirements embodied in Regulation D on the grounds that it is already subject to limitations on amount and purpose. Also, ineligible acceptances have been treated as deposit liabilities subject to reserve requirements (see table 1).

Because a bank must incur comparable interest expenditures on its acceptance and CD liabilities, but not the cost of maintaining reserve requirements against its eligible acceptance liabilities, it will generally charge a lower rate on an acceptance credit than on a commercial and industrial loan. This difference makes acceptance financing an attractive form of short-term credit to the bank's customers when money is tight. Exemption from Regulation D (and from Regulation Q ceilings on interest rates) may have contributed greatly to the rapid growth of the bankers acceptance market. The impact of these regulations on the growth of the acceptance market is examined below.

Bankers Acceptances and Regulation Q. Acceptances may be discounted by banks at the market rate of interest regardless of the Regulation Q ceilings. As long as Regulation Q governed the interest rate on deposits of $100,000 or more, acceptances could be used to circumvent the ceilings.10/

The Growth of the Acceptance Market. The use of acceptance financing is attractive to banks because it permits them (1) to treat a customer's time draft as a straight loan (by holding the acceptance in its own portfolio), or (2) to sell the acceptance in the

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9. For a complete discussion of the acceptance operations of the Federal Reserve Bank of New York, and of the requirements that a bank's acceptances be "prime," see Ralph T. Helfrich, "Trading in Bankers' Acceptances: A View from the Acceptance Desk of the Federal Reserve Bank of New York," Federal Reserve Bank of New York, Monthly Review, vol. 58 (February 1976), pp. 51-57.

10. In July 1971, the Regulation Q ceilings were eliminated for such deposits with 90 days or less to maturity; in June 1974, they were lifted regardless of maturity.

well-established secondary market in exchange for reserve assets.[11] When the bank holds the acceptance in portfolio, it has a "marketable loan" that serves as a secondary reserve asset. The bank reports this asset as a commercial and industrial loan on its report of condition. When the bank decides to sell the acceptance in the secondary market, the bank liability resulting from the sale of the eligible acceptance at the market discount rate (circumventing Regulation Q ceilings) is exempt from reserve requirements. Upon the sale of the acceptance the bank simultaneously books the asset item "customer's liability to bank" and the liability item "acceptances outstanding." The "customer's liability to bank" corresponds to a commercial and industrial loan; indeed, this asset is supervised by the bank regulatory agencies as if it were a commercial and industrial loan.[12] In periods of tight money, when the bank is faced with an excess demand for credit, acceptance financing is particularly attractive because it allows the bank to meet its customer's borrowing requests without affecting its reserve assets at all.

The rapid growth in the acceptance market is highlighted in table 2 and chart 3. The chart indicates that during tight money periods bankers tend to reduce the ratio of bankers acceptances held in portfolio to all acceptances.[13] This observation is consistent with the hypothesis that banks increase their use of acceptance financing during tight money periods to meet their customers' needs and sell the accepted time drafts in the secondary market. Chart 3 also indicates that at such times the banks' portfolios of acceptances comprise relatively more of their own acceptances than in periods of low interest rates. Apparently,

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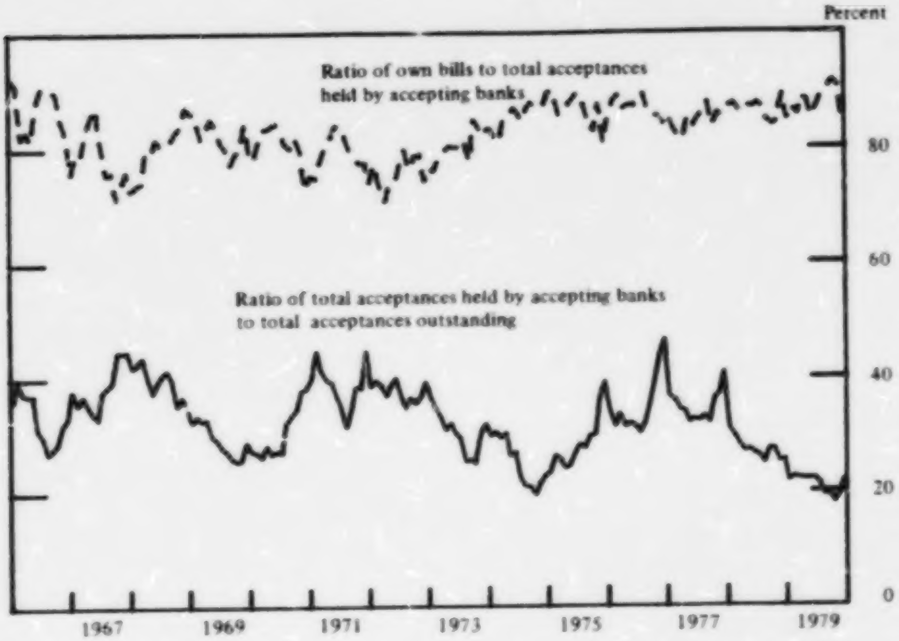
[11] In general, the exporter discounts the time draft at the accepting bank. The exporter can hold the draft to maturity, but if it does decide to sell it before that, the best price (discount rate) it receives generally comes from the accepting bank.

[12] When the acceptance is sold from the bank's portfolio, the bank reduces the amount of acceptances reported as commercial and industrial loans and increases its customer liabilities to bank. The sale of the bank's discounted acceptance liability generates an offsetting cash inflow.

[13] For accepting banks this ratio averaged 31 percent over the interval January 1969 through December 1975. It had a high of 44 percent during the relatively "easy" period of December 1971, and a low of 19 percent during the tight money conditions of October 1974.

3. Cyclical behavior of acceptances outstanding, monthly, 1966–79



Source: *Federal Reserve Bulletin*, various issues, table entitled, "Commercial Paper and Bankers Dollar Acceptances Outstanding."

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banks are meeting the credit needs of their customers during tight money periods both by selling off their holdings of the acceptances of other banks and by allowing these holdings to mature without reinvesting in similar assets.[14] The cyclical pattern of the movements in chart 3 appears to be independent of Regulation Q. The volume of bankers acceptances continued to grow rapidly after the suspension of ceilings on large-denomination CDs. In all probability the reason is that acceptances are not reservable: that is, the higher the interest rates on CDs, the greater the costs of maintaining non-interest-bearing reserves against these liabilities, and the cheaper bankers acceptances become relative to CDs.[15]

Chart 4 illustrates the underlying trade transactions financed through dollar bankers acceptances. It shows that a substantial portion of bankers acceptance liabilities--approximately 50 percent--are used to finance trade transactions between foreign countries.

The marketability of bankers acceptances is guaranteed by the extensive participation of dealers (the major dealers are in New York City) who stand ready to buy and sell prime bankers acceptances. Like Treasury bills, bankers acceptances trade at a discount; prices are quoted on a bid-and-ask basis, and the spread between the two is the dealer's profit. Dealers attempt to match sales and purchases. When they find an excess of purchase or sell orders, they quickly adjust their quoted rates to eliminate it. Dealer inventories are generally financed by call loans from commercial banks in New York City. Dealers sell to other

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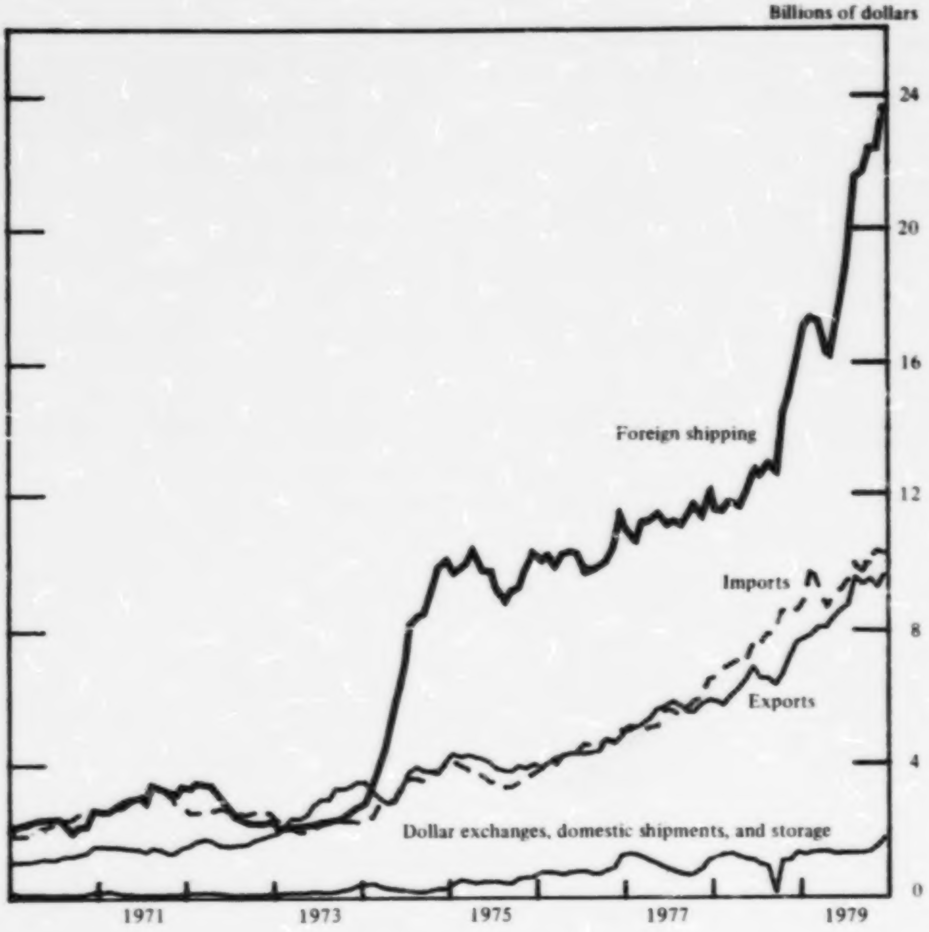
[14] Banks may not sell all of their acceptances: some of their acceptances may be ineligible and thus still reservable if sold, so that there is no incentive for a sale; and the bank may be concerned with the amount of acceptances it has already sold in the marketplace and the way the market will perceive further sales.

[15] From the perspective of the money market investor, three-month negotiable CDs and prime bankers acceptances are very close substitutes. When adjusted to a yield-to-maturity basis, the average rates on three-month bankers acceptances and negotiable CDs differed by less than 1 basis point in the period from year-end 1972 through September 1980. The coefficient of determination (R^2) between the levels of the CD rate and the acceptance rate over this period was 99.9 percent. The correlation of the changes in the CD rate to the changes in the acceptance rate was 99.2 percent.

4. Bankers acceptances, by underlying transaction, monthly, 1970–79



Source. Federal Reserve Bank of New York, monthly surveys of bankers acceptances.

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domestic banks, foreign commercial banks, foreign central banks, and both domestic and foreign businesses unrelated to banking. Short-term buildups in dealer inventories can be relieved by sales under repurchase agreements with the Federal Reserve Bank of New York. This practice guarantees dealer liquidity and affects the spread required between the bid and ask quotes. Table 2 shows the growth of this market, which reached $45.3 billion in December 1979 and is still growing.

RISKS ASSOCIATED WITH LETTERS OF CREDIT

Each of the parties to a letter of credit faces some risks. The following paragraphs discuss the risks to the issuing and the confirming banks, and the general risks that attend overextension.

The Issuing Bank

Once the letter of credit is issued by the bank, it becomes a contingent liability of the bank subject to the conditions of the letter. When the letter of credit calls for a payment on "sight," this contingent liability is terminated after the appropriate documents are received. In the case of a time letter of credit the liability is transformed from a contingent to an actual liability when the bank finds the documents in order and formally "accepts" the responsibility for future payment, thus creating the bankers acceptance. In each of these transactions the bank faces two sources of risk. The first is the risk associated with the creditworthiness of the importer (buyer). If the importer defaults on the payment for the goods, the bank must pay. The risk is comparable to that on the bank's loan portfolio, but lower because of the shorter average term to maturity of a letter of credit. The second risk relates to the documents. If the bank makes payment (or "accepts" the responsibility for payment) when the underlying documents do not conform to the letter of credit, the buyer may choose not to take possession of the goods. This risk is the direct result of the bank being the third party in the trade transaction. In approximately 35 percent of the cases the documents do not conform to the letter of credit; the bank's letter of credit department is responsible for finding such discrepancies and notifying the appropriate parties so that corrections can be made. The ability to minimize documentary risk is a function of the size and experience of the staff in the letter of credit department. Even when a discrepancy is missed, only a major change in the market for these goods (over a very short interval of time) will induce the buyer to abandon the transaction. In this situation the bank will try to sell the goods back to the exporter or find a buyer on its own. It is rare that a bank is forced to take ownership of the goods, and extremely rare that a bank writes off as a loss any part of this transaction.

To compensate for these risks, the issuing bank typically charges 1/4 percent of the amount of the draft for the letter of credit and a commission of at least 1/8 of 1 percent per month (1.5 percent per annum) for accepting the draft and creating a bankers acceptance.16/

The Confirming Bank

Often the exporter will be unfamiliar with the foreign bank that has issued the letter of credit, or may be apprehensive about the economic and political situation in the importing country. In these cases a U.S. exporter will request a confirmation of a dollar letter of credit from a U.S. bank. When the letter of credit calls for a payment on "sight," the confirmation guarantees the exporter payment upon presentation of the stipulated documents. When the letter of credit states the presentation of a time draft for acceptance, the confirmation guarantees payment to the holder of that accepted draft upon its maturity. In both cases, if the drawee cannot make payment, the confirming bank is obligated to do so.17/ This bank bears two risks: (1) the credit risk that the issuing bank will default in its letter-of-credit obligation; and (2) the political risk of exchange controls, and of the consequent inability of the issuing bank to convert local currency to dollars. This risk is minimized when dealing with large correspondents with international branches. The confirmation fee is, in general, 1/20 of 1 percent for a three-month period or less. In the words of one New York City banker, "if the foreign bank situation is riskier than this 1/20 of 1 percent, then we will simply not confirm."

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16. The acceptance fee may increase in tight money periods as demand for acceptances pushes competing banks against their aggregate limitations.

17. When an acceptance is created from an unconfirmed letter of credit, the holder of the draft has recourse to the exporter if the drawee fails to make payment. The confirmation is therefore an important property to the exporter after it has discounted the acceptance and received cash for its merchandise sold.

Risk of Overextension

The previous discussion has emphasized that the volume of eligible bankers acceptances has been growing rapidly, and that they are particularly attractive credit instruments during periods of tight money, when a bank has scarce reserve assets. Whatever their attactions, the risk of a bank overextending itself is very small because section 13 restricts the volume of eligible acceptances a bank can have outstanding at any time. The next section reviews the failures of commercial banks since January 1961 to determine the extent to which acceptance financing was implicated in their problems.

FAILED BANKS

Data for this analysis are from the report of condition made by failed banks immediately preceding their failure.[18] They compare specific statistics for failed banks and a control group of banks of the same asset size located within the same bank district. The statistics presented are balance-sheet ratios that measure either the bank's utilization of acceptance financing or its employment of financial leverage:[19]

1. Customer liabilities to bank to bank assets.
2. Acceptances outstanding to deposits.
3. Customer liabilities to bank to acceptances outstanding.
4. Loans to deposits.
5. Loans plus customer liabilities to bank to deposits plus acceptances outstanding.

Ratios 1 and 2 are measures of the importance of bankers acceptances in terms of the composition of assets and liabilities respectively. These ratios may differ from one another when a bank has a substantial amount of nondeposit liabilities (for example, federal funds purchased) or capital. High ratios indicate a substantial reliance on acceptance financing. Ratio 3 represents the percentage of the bank's outstanding liability that is backed by a bank claim on its customer (say, a U.S. importer). This ratio should be near unity but may deviate from this value when the bank's customers prepay their obligations without the concomitant repurchase by the bank of their acceptances in the secondary market. Ratio 4 is a widely used measure of bank illiquidity. Ratio 5 expands this measure to include its "loans" and liabilities incurred through acceptance financing. For each of these ratios the mean and standard deviations of the failed bank and its control group of banks are compared. Furthermore, the percentage of all banks within the control group with ratios greater than that of the failed bank is also listed. One caution regarding ratio 3: The unweighted average of individual banks will lie somewhere between zero (when the bank has no acceptances outstanding) and one, but will be meaningless because banks, in general, will have a ratio of zero or one, not a ratio between the two. Therefore, the relevant statistic for ratio 3 is the number of banks in the control group with a ratio greater than that of the failed bank. Between January 16, 1961, and September 2, 1977, 101 banks failed.

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[18] An appendix giving the ratios used in the following discussion for all of the 101 banks that failed between 1961 and 1977 is available from the author on request.

[19] When the acceptance is created the bank debits "customer liability to bank" to represent the claim it has on its customer (for example, the buyer), and credits "acceptances outstanding," which represents its liability on the time draft.

Table 3 summarizes the size distribution of failed banks. Nearly two-thirds of the failed banks had assets of less than $10 million. Ten percent of the failed banks had assets in excess of $100 million (eight banks in the $100 million to $500 million range, and two in the $1 billion to $5 billion range--U.S. National Bank of San Diego and Franklin National).

Table 4 presents a comparison of ratio 2 for the failed banks and the control groups of the same size and in the same district. This table indicates that for 94 percent of all failed banks this ratio was less than 1/10 of 1 percent; for only two of the 101 failures studied was it greater than 2 percent. These ratios compare with 88 percent and 1 percent respectively for the control-group banks.

Table 5 presents a distribution of the loan-deposit ratios for failed banks relative to that for their control groups. This distribution is markedly skewed. Forty-eight of the 101 failed banks had loan-deposit ratios greater than those of 90 percent of their control group; and, while 61 of the failed banks were in the top fifth of loan-deposit ratios, only 7 were among the lowest fifth.

Tables 4 and 5 suggest that the relative amount of bankers acceptances held by the bank is not a good indicator of bank problems. A further analysis of each failed bank with a ratio of acceptances outstanding to deposits greater than 1/10 of 1 percent was conducted (see appendix B). For only seven banks did this ratio exceed this figure; the high was 4.5 percent. In none of these cases can it be said that the bank failed because of its use of acceptance financing.

The apparent reason that the failed banks have not, in general, relied on acceptance financing is that they simply have been too small to participate in this market.20/ Table 6 indicates that only the very largest banks undertake substantial acceptance financing. Barely half of all banks with $0.5 billion to $1 billion in deposits have bankers acceptances outstanding in excess of 1 percent of their deposit liabilities, compared with 100 percent of banks with deposits greater than $5 billion. Moreover, acceptance financing is dominated by the largest banks: according to consolidated call report data for September 1979, 98.8 percent of all acceptances outstanding are liabilities of banks with deposits greater than $1 billion. Data on commercial letters of credit for national banks presented in tables 7 and 8 indicate that the dominance of large banks also extends to the letter-of-credit market. Of the dollar volume of commercial letters of credit of national banks outstanding on September 30, 1979, more than 99 percent was issued by banks with more than $1 billion in assets. Three principal reasons explain the dominance of the very largest U.S. banks in commercial letters of credit and acceptance financing.

First, the handling of commercial letters of credit and bankers acceptances is subject to economies of scale. A bank can incur substantial costs to staff, train, and operate a department to issue letters of credit and bankers acceptances and to verify the required documents so as to minimize its documentary risk. To cover the fixed costs of staffing this department calls for some minimum volume of fees from letters of credit and acceptances.21/ Smaller banks cannot, in general, generate sufficient revenues from these activities to justify these departments.

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20. Only 2 of the 101 failed banks had deposits greater than $1 billion, and no failed bank had deposits greater than $5 billion.

21. The fee for letters of credit is generally 1/4 of 1 percent of the underlying transaction.

Second, large banks are viewed as "safe" banks with minimum risk. They are perceived as highly creditworthy, and their acceptances sell at prime in the secondary market. Acceptances that are not prime are not so marketable, so that they lose the comparative advantage of the instrument. One factor influencing the liquidity of prime acceptances is the Federal Reserve Bank of New York, which enters the market to purchase, under repurchase agreements, only prime bankers acceptances. The Bank's participation expands the market for these instruments and reduces the risk dealers must face (in the accumulation of an inventory of unwanted acceptances), thus reducing the spread on their bid-and-ask quotes.

Finally, because the limits on aggregate acceptances outstanding at any time are based on a bank's capital and surplus, big banks obviously will dominate this market.

REGULATION OF LETTERS OF CREDIT AND BANKERS ACCEPTANCES

At present commercial letters of credit do not appear on the bank's balance sheet and need not be reported in the bank's annual report.[22] These contingent liabilities are not regulated, nor are they even reported to the Federal Reserve Board. The Comptroller of the Currency, however, has recently required all national banks to report their commercial letters of credit outstanding on schedule J of their call reports. The only time letters of credit become subject to regulation by the Federal Reserve Board is when a time draft, drawn in accordance with a letter of credit, is accepted by the issuing bank. At this point the liability is transferred from contingent to actual status and becomes a balance-sheet item.

As noted above, in the aggregate, eligible bankers acceptances cannot exceed (1) 50 percent of the bank's capital and surplus (100 percent with the approval of the Federal Reserve Board), and (2) for acceptances involving domestic transactions, 50 percent of capital and surplus.[23] Ineligible acceptances face no limitations on aggregate but are restricted (as are all bankers acceptances) for an individual customer to 10 percent of capital and surplus when the transaction is unsecured.

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[22] A few banks voluntarily provide this information in their annual reports or on their 10K reports. Of the 12 largest banks, only Bankers Trust, Citibank, and Chase Manhattan provide this information.

Acceptances secured by shipping documents, warehouse receipts, or other documents transferring or securing title covering readily marketable, nonperishable staples are subject to a limit per customer of 25 percent of the bank's capital and surplus.

Economic Properties of Commercial Letters of Credit and Bankers Acceptances

A large bank generally integrates the acceptance-financing needs of a customer into its total credit commitment to that customer. It sets up a formal line of credit based on the evaluation by its credit department of the creditworthiness of the customer.[24] The bank allows the customer to draw only up to the maximum of this line, and letters of credit issued on behalf of the customer are counted as drawings against this line. From the perspective of the regulator, this bank treatment of letters of credit reduces the potential risk in the bank's "loan" portfolio because the bank is treating the letter of credit essentially as a loan.

Because of the way banks treat letters of credit, banks that have problems with their letter-of-credit portfolios will likely be having problems with their loan portfolios as well.[25] The probability that a customer's creditworthiness will change over the short life of the commercial letter of credit is relatively small. It is much greater in connection with loans of intermediate term to these customers, such as term loans. Thus the risk inherent in letters of credit appears to be lower than that normally associated with a loan portfolio.

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[23] The limit is 100 percent only if the bank has received written permission to accept in this amount by the Federal Reserve Board. Most large banks applied for this permission in the 1920s. Once approval was given, they were not required to reapply when their surplus levels changed.

[24] Small banks appear to operate in the same manner, but information on them is not so readily available.

[25] To avoid these problems, banks typically monitor the creditworthiness of their customers with lines of credit to learn of any changes in riskiness.

No evidence now available suggests that banks abuse letters of credit because they are regulation-free. For one thing, time letters of credit are implicitly regulated to the extent that they become bankers acceptances. The Board has also suggested that member banks exercise prudence in issuing letters of credit that might push their acceptances beyond the limit.26/

Bankers Acceptances. According to chart 3, banks use acceptance financing more in periods of tight money than easy money. The reason lies, in part, in the freedom from reserve requirements of the proceeds of sales of eligible bankers acceptance liabilities. The higher the interest rates on bank deposit liabilities, the greater the costs incurred in maintaining reserves in non-interest-earning form against these liabilities. Banks must charge a rate on loans (either explicit, in the form of interest charges, or implicit, in the form of minimum balances) that is sufficient to cover the costs of funds loaned out and any costs of maintaining required reserves against their deposit liabilities. Banks will charge a lower rate on acceptance credits than on conventional loans during periods of high interest rates because eligible acceptance liabilities are not subject to reserve requirements.27/ To the extent that short-term business loans and acceptance financing are substitutable, this difference will stimulate demand for acceptance financing during periods of tight money.28/

While policy might suggest closing this route to circumventing Regulation D, making bankers acceptances subject to reserve requirements may adversely affect trade denominated in U.S. dollars. It will probably cause U.S. banks to charge their customers more to discount an acceptance to compensate for their holding of non-interest-earning reserves against the sale of

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26. Federal Reserve Bulletin, vol. 7 (July 1921), p. 816.

27. This assumes that competition between banks forces them to pass along this cost savings to their customers. It also assumes that acceptances are priced comparably to other bank liabilities. Chart 2 clearly shows that the rates on three-month acceptances and CDs are nearly identical. If banks are at or near their aggregate limits, they may increase their fees substantially so that acceptance credits and conventional loans become comparably priced.

28. Bankers acceptances can substitute for short-term business loans when the latter meet the eligibility criteria of section 13.

these discounted drafts.[29] This higher acceptance fee may make dollar-denominated trade slightly more expensive, with effects on U.S. trade that depend upon the availability and costs of other sources of financing. In the presence of unregulated sources of financing, such as Eurodollars or direct borrowing by firms from lenders in the commercial paper market, the impact on U.S. trade of imposing reserves on eligible bank acceptance obligations should be slight. The need for doing so is mitigated by the aggregate limitation on eligible acceptances outstanding to 100 percent of paid-up capital stock and surplus. This restriction functions much like reserve requirements in that it prevents the unlimited expansion of acceptance credits.

Apparently Outdated Eligibility Criteria. In several areas, regulation of bankers acceptances is outdated. The tenor requirement is one. At present, an acceptance that is identical to another in every respect except tenor (drawn against the same bank, with the same term to maturity, used to finance international trade) could be eligible for rediscount with a Federal Reserve Bank, while the other would not be. Furthermore, these instruments may be valued differently by the market, and the ineligible acceptances will sell at a discount relative to the eligible ones.[30] Although tenor was originally included in the Federal Reserve Act to restrict the level of credit expansion in the economy, it no longer serves this purpose.[31] Relaxing the tenor restriction may promote trade by giving banks an incentive to issue acceptances with tenor greater than the eligibility requirements, which would convert to eligible status when they met the maturity requirements of section 13. The relaxation or elimination of tenor would offer cost savings to the bank that, if passed through to its customers, might promote an increase in trade. Its disadvantage is that it would encourage banks to issue longer-term, and thus riskier, acceptances. This incremental risk should be slight, however, because banks make short-term loans in excess of six months infrequently,32/ and because the aggregate of eligible acceptances banks can have outstanding at any time is limited.

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[29] As explained in note 3, the acceptance fee charged by banks does not appear large enough to allow them to absorb the costs of maintaining reserves against acceptances outstanding. Banks that attempt to pass these costs through to their customers (as in the illustration in note 3) must increase their fees 40 percent.

[30] The existence of a differential was confirmed by a conversation with an acceptance trader. One apparent reason for the differential is that banks will not demand acceptances of other banks as secondary reserve assets unless they can be discounted or used as collateral for Federal Reserve loans.

[31] See appendix C for a discussion of the history of tenor and arguments for its elimination.

Another outdated requirement for eligibility is that title be conveyed from the seller to the member bank on all domestic transactions financed through acceptances. This conveyance is not required of acceptances based on the export or import of goods. Like the tenor requirement, this restriction was intended to prevent overexpansion by banks; but it is no longer needed because the secondary market and the aggregate limits based on bank capital and surplus effectively serve this purpose.33/

The Federal Reserve Act also laid down a maximum on eligible bankers acceptances that was intended to limit the potential of commercial banks to create credit. This constraint can become binding on bank acceptance activities when interest rates are high.34/ Even apart from the aggregate limitation, banks would refrain from overextending themselves in bankers acceptances because doing so could jeopardize their creditworthiness and make it difficult for them to market their acceptances. The elimination of this limit will foster acceptance financing if the regulatory constraint is more binding than the market constraint. Furthermore, it can do so without adversely affecting bank creditworthiness, as banks substitute acceptances for reservable liabilities, such as large certificates of deposit, to finance domestic and foreign trade transactions.

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32. Of all loans with maturity of less than one year, 87.9 percent have a maturity of less than six months, according to the Federal Reserve's May 1978 loan survey of 350 banks ("Terms of Bank Lending to Business" reports).

33. Again, see appendix C.

34. Call report data for year-end 1979 indicate that six of the largest ten issuers of acceptances had ratios of acceptances to capital and surplus in excess of 90 percent, and thus that they were at or near their aggregate limits. These six banks had issued 42 percent of all the outstanding bankers acceptances as of December 31, 1979.

1. Eligibility and reserve requirements of prime bankers acceptances

Type of bankers acceptance and tenor[1]	Eligibility Purchase[2]	 Discount[3]	Reserve requirements[4]
Export-import, including shipments between foreign countries			
6 months or less	Yes	Yes[5]	No
6 months to 9 months	Yes	No	Yes
Domestic shipment, with documents conveying title attached at the time of acceptance			
6 months or less	Yes	Yes[5]	No
6 months to 9 months	Yes	No	Yes
Domestic shipment, without documents conveying title			
6 months or less	Yes	No	Yes
6 months to 9 months	Yes	No	Yes
Shipment within foreign countries			
Any maturity	No	No	Yes
Foreign storage, readily marketable staples secured by warehouse receipt			
6 months or less	No	Yes[5]	No
6 months to 9 months	No	No	Yes
Domestic storage, readily marketable staples secured by warehouse receipt			
6 months or less	Yes	Yes[5]	No
6 months to 9 months	Yes	No	Yes
Domestic storage, any goods in the United States under contract of sale or going into channels of trade and secured throughout its life by warehouse receipt			
6 months or less	Yes	No	Yes
6 months to 9 months	Yes	No	Yes

1. Continued

Type of bankers acceptance and tenor[1]	Eligibility		Reserve requirements[4]
	Purchase[2]	Discount[3]	
Dollar exchange, required by usages of trade, only in approved countries			
3 months or less	No	Yes	No
3 months to 9 months	No	No	Yes
Finance or working capital, not related to any specific transaction			
Any maturity	No	No	Yes

1. Tenor refers to the time of the acceptance from date of inception to maturity.

2. Authorizations announced by the Federal Open Market Committee on April 1, 1974.

3. In accordance with Regulation A of the Federal Reserve Act.

4. In accordance with Regulation D of the Federal Reserve Act.

5. Providing that the maturity of nonagricultural bills at the time of discount is not more than 90 days.

Source. Ralph T. Helfrich, "Trading in Bankers' Acceptances: A View from the Acceptance Desk of the Federal Reserve Bank of New York," Federal Reserve Bank of New York, Monthly Review, vol. 58 (February 1976), p. 54.

2. Dollar acceptances outstanding, selected years, 1929-79[1]

Millions of dollars

Year-end	Amount
1929	1,732
1939	233
1945	154
1950	394
1955	642
1960	2,027
1965	3,392
1967	4,317
1969	5,541
1970	7,058
1971	7,889
1972	6,898
1973	8,892
1974	18,484
1975	18,727
1976	22,523
1977	25,450
1978	33,700
1979	45,321

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1. Includes acceptances held by Federal Reserve Banks, commercial banks, and others, and excludes finance bills, also known as working capital acceptances.

Source. Federal Reserve Bank of New York, monthly surveys of bankers acceptances.

3. Assets of failed banks, 1961-77

Asset size class (millions of dollars)	Number of failed banks
Less than 10	65
10 - 50	22
51 - 100	4
101 - 500	8
501 - 1,000	0
1,001 - 5,000	2
Greater than 5,000	0
All classes	101

Source. Calculated from call report data.

4. Ratio of acceptances outstanding to total deposits, failed banks, 1961-77

Ratio range (percent)	Number of failed banks	Number of control-group averages
0 - .1	94	88
.11 - .5	1	8
.51 - 1.0	0	4
1.01 - 2.0	4	0
Greater than 2.0	2	1
Total	101	101

Source. Calculated from call report data.

5. Failed banks, by loan-deposit ratio of control group, 1961-77

Percentile of loan-deposit ratios of control banks	Number of failed banks
0-10	4
11-20	3
21-30	3
31-40	5
41-50	5
51-60	8
61-70	6
71-80	6
81-90	13
91-100	48
Total	100

Source. Calculated from call report data.

6. Percentage of banks involved in acceptance financing, by asset size class and Federal Reserve District, September 1979

District	Asset size class (millions of dollars)							
	0-10	11-50	51-100	101-500	501-1,000	1,001-5,000	Over 5,000	All
1	0	5.7	7.4	15.7	40.0	90.0	100.0	16.4
2	0	12.9	18.2	23.1	66.7	89.5	100.0	37.5
3	0	.0	4.3	12.9	31.3	90.0	100.0	16.9
4	0	4.2	2.6	9.5	66.7	92.3	100.0	15.0
5	0	.8	4.8	6.6	21.4	82.4	100.0	9.0
6	1.4	6.2	8.7	24.4	64.7	92.3	(1/)	13.7
7	0	4.3	5.7	12.8	38.5	92.9	100.0	11.3
8	1.5	2.4	12.5	10.0	50.0	100.0	(1/)	6.9
9	0	21.2	33.3	17.9	50.0	100.0	(1/)	20.8
10	0	2.5	9.4	17.7	45.5	66.7	(1/)	7.8
11	6.3	13.7	34.5	20.0	41.7	100.0	100.0	23.7
12	0	1.0	6.3	21.1	50.0	81.0	100.0	17.5
All	.9	4.7	9.8	16.2	48.3	88.5	100.0	14.3

1. There were no banks in this size class in this district.

Source. Comptroller of the Currency, consolidated call reports.

7. Percent of all national banks involved in letter-of-credit operations, by asset size class, September 1979

District	Asset size class (millions of dollars)							
	0-10	11-50	51-100	101-500	501-1,000	1,001-5,000	More than 5,000	All
1	0	0	50.0	50.0	100.0	100.0	100.0	58.6
2	0	(1/)	100.0	62.9	100.0	100.0	100.0	78.0
3	0	0	50.0	25.8	71.4	75.0	100.0	40.8
4	0	0	14.3	33.3	75.0	100.0	100.0	42.1
5	100.0	0	33.3	35.3	75.0	100.0	100.0	53.4
6	0	15.4	30.0	53.8	92.3	100.0	(1/)	55.1
7	0	0	16.7	45.3	60.0	100.0	100.0	45.9
8	0	0	0	33.3	100.0	100.0	(1/)	46.3
9	0	0	0	48.6	50.0	100.0	(1/)	48.9
10	0	50.0	42.9	40.0	70.0	100.0	(1/)	50.0
11	0	25.0	0	43.1	63.6	100.0	100.0	50.6
12	0	(1/)	0	55.6	66.7	93.3	100.0	76.5
All	33.0	11.9	26.9	44.1	77.6	97.8	100.0	52.1

1. No national bank in this size class in this district reported this information.

Source. Comptroller of the Currency, consolidated call report, schedule J.

8. Commercial letters of credit as a percent of deposits, by asset size class, September 1979

District	Asset size class (millions of dollars)							
	Less than 10	11-50	51-100	101-500	501-1,000	1,001-5,000	More than 5,000	All
1	(1/)	0	.14	.07	.59	1.91	7.11	.65
2	(1/)	(1/)	.01	.40	.50	1.73	5.87	.87
3	(1/)	0	.05	.06	.19	.43	1.67	.17
4	(1/)	0	.01	.08	.37	1.27	.81	.26
5	.14	0	.04	.24	.57	1.27	1.13	.46
6	0	.08	.20	.47	2.14	.90	(1/)	.52
7	(1/)	0	.02	.17	.47	1.38	2.61	.27
8	(1/)	0	0	.18	.48	1.54	(1/)	.37
9	(1/)	0	0	.30	.12	1.19	(1/)	.33
10	(1/)	.17	.28	.29	.25	1.00	(1/)	.34
11	(1/)	.05	0	.49	3.01	1.47	2.83	.97
12	(1/)	(1/)	0	.29	.57	.88	2.21	.84
All	(2/)	.04	.09	.27	.88	1.21	3.01	.48

1. No national bank in this size in this district reported this information.

2. Negligible.

Source. Comptroller of the Currency, consolidated call report, schedule J.

Appendix A
LETTERS OF CREDIT AND BILLS OF EXCHANGE

This appendix defines, discusses, and illustrates some of the kinds of letters of credit and bills of exchange.

Confirmed Letter of Credit. A letter of credit is confirmed when a second bank adds its guarantee to that of the issuing bank to pay the beneficiary upon the presentation of the stipulated documents in the credit. A bank in the exporter's country can advise the exporter of the issue of the letter of credit without confirming it.

A confirmed letter of credit is viewed as a relatively safe asset with minimum risk to the beneficiary.

Revocable and Irrevocable Letters of Credit. A revocable letter of credit can be cancelled by any of the parties to the agreement before the presentation of the documents. An irrevocable letter of credit cannot be modified or cancelled without the consent of all parties. An exporter with little information on the buyer will naturally prefer an irrevocable letter of credit. When the exporter knows the importer but is concerned that the latter may have problems in converting his currency into dollars (assuming the trade is in dollars), he may ask for a revocable letter of credit in the anticipation that this formal record of the trade transaction will speed the payment process through local government channels.

Straight and Negotiable Letters of Credit. In a straight letter of credit the beneficiary must present the documents to the issuing bank (or to a different bank specified in the letter) in order to receive payment. In a negotiable letter of credit the beneficiary can endorse the draft drawn in accordance with the letter and receive payment from any bank willing to be the paying bank. This paying bank (negotiating bank) will then (unless it, in turn, sells the draft) be paid by the issuing bank.

Confirmed Irrevocable (Negotiable) Letter of Credit. This type of letter of credit effectively eliminates commercial and political risk to the exporter and allows him to receive immediate payment from the bank. This instrument is the preferred method of payment and the most expensive for the traders. Exporters in the United States tend to prefer this instrument or an unconfirmed irrevocable negotiable letter of credit issued by a

U.S. bank at the request of a foreign bank. Under each of these letters a U.S. bank is obligated to pay the beneficiary. Exhibit A.1 provides an illustration of a confirmed irrevocable (negotiable) letter of credit, and exhibit A.2 an illustration of an unconfirmed irrevocable letter of credit issued by a U.S. bank.

Travelers' Letters of Credit. Travelers' letters of credit are a relatively small percentage of all letters of credit and are issued by the bank on behalf of individuals preparing for an extended trip. The customer pays for the letter of credit at the time of issuance and the bank issues the letter for a specified period for the amount purchased. This letter is different from the commercial letter of credit because it is not used explicitly to trade goods and because it arises from a prepaid asset rather than contingent claims.

Commercial Letters of Credit and Standby Letters of Credit. The commercial letter of credit finances movement or storage of goods and is normally payable against the presentation of documents conveying title to the shipped goods. The standby, on the other hand, is generally an unsecured credit payable upon default by the account party or nonperformance of a contractual obligation to the beneficiary.

Drafts (Bills of Exchange). In exporting, the beneficiary (exporter) includes a draft with the documents presented to the issuing (importer's) bank. A draft is essentially a formal version of an account receivable that the exporter possesses as a result of the sale.35/ The draft is written in accordance with a letter of credit and subject to the terms of that credit.

A sight draft is payable upon presentation to the drawee (generally the importer's bank). Although a sight draft can be paid within hours of receipt of documents, it is normally outstanding for several weeks because banks in many countries withhold presentation of the documents until after the goods have arrived at the importer's dock.

A time draft is payable at some specified later date ("sight plus x days"). When a time bill is presented to the drawee, he signifies his willingness to abide by its terms by stamping

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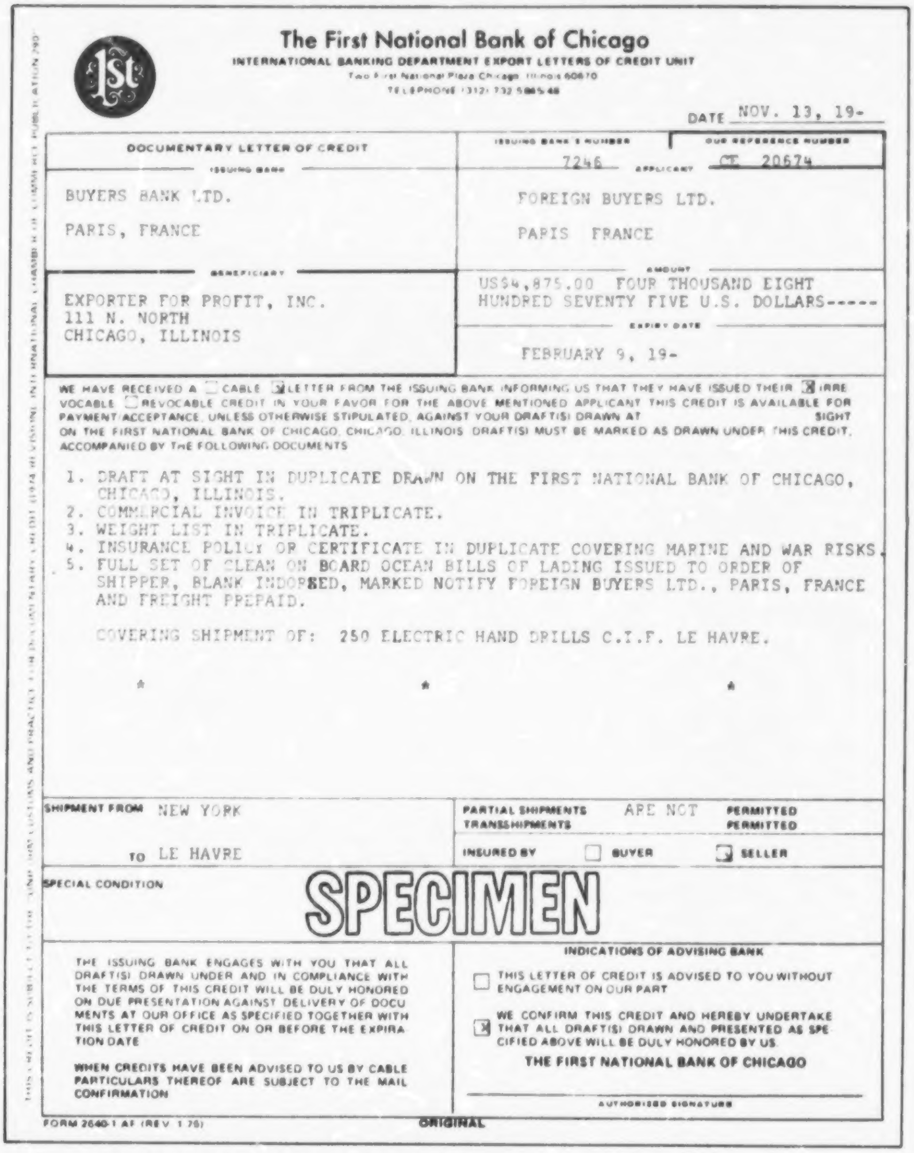
35. Technically, a draft is an unconditional order in writing addressed by one person (the drawer) to another (the drawee) requiring the latter to pay on demand or at some specified date a specific sum of money to the drawer.

"ACCEPTED" on the bill's face. The bill then becomes an "acceptance." If the drawee accepting the bill is the importer, the bill is termed a "trade acceptance." If the drawee, in conformance with the terms of the letter of credit, is a bank, it is a "bankers acceptance."

Exhibit A.3 offers a time draft with a letter of instructions sent by Morgan Guaranty to its correspondent in Japan for collection. In exhibit A.4, Morgan Guaranty is now the issuing bank--that is, the drawee (it was the beneficiary in exhibit A.3). In this exhibit the draft is presented to Morgan, which stamps "ACCEPTED."

Exhibit A1

Correspondent's Irrevocable Letter of Credit Confirmed by an American Bank



The First National Bank of Chicago
INTERNATIONAL BANKING DEPARTMENT EXPORT LETTERS OF CREDIT UNIT
Two First National Plaza Chicago, Illinois 60670
TELEPHONE (312) 732 5865/48

DATE NOV. 13, 19-

DOCUMENTARY LETTER OF CREDIT	ISSUING BANK'S NUMBER 7246	OUR REFERENCE NUMBER CT 20674
ISSUING BANK BUYERS BANK LTD. PARIS, FRANCE	APPLICANT FOREIGN BUYERS LTD. PARIS FRANCE	
BENEFICIARY EXPORTER FOR PROFIT, INC. 111 N. NORTH CHICAGO, ILLINOIS	AMOUNT US$4,875.00 FOUR THOUSAND EIGHT HUNDRED SEVENTY FIVE U.S. DOLLARS----- EXPIRY DATE FEBRUARY 9, 19-	

WE HAVE RECEIVED A ☐ CABLE ☒ LETTER FROM THE ISSUING BANK INFORMING US THAT THEY HAVE ISSUED THEIR ☒ IRREVOCABLE ☐ REVOCABLE CREDIT IN YOUR FAVOR FOR THE ABOVE MENTIONED APPLICANT THIS CREDIT IS AVAILABLE FOR PAYMENT/ACCEPTANCE, UNLESS OTHERWISE STIPULATED, AGAINST YOUR DRAFT(S) DRAWN AT SIGHT ON THE FIRST NATIONAL BANK OF CHICAGO, CHICAGO, ILLINOIS. DRAFT(S) MUST BE MARKED AS DRAWN UNDER THIS CREDIT, ACCOMPANIED BY THE FOLLOWING DOCUMENTS

1. DRAFT AT SIGHT IN DUPLICATE DRAWN ON THE FIRST NATIONAL BANK OF CHICAGO, CHICAGO, ILLINOIS.
2. COMMERCIAL INVOICE IN TRIPLICATE.
3. WEIGHT LIST IN TRIPLICATE.
4. INSURANCE POLICY OR CERTIFICATE IN DUPLICATE COVERING MARINE AND WAR RISKS.
5. FULL SET OF CLEAN ON BOARD OCEAN BILLS OF LADING ISSUED TO ORDER OF SHIPPER, BLANK INDORSED, MARKED NOTIFY FOREIGN BUYERS LTD., PARIS, FRANCE AND FREIGHT PREPAID.

COVERING SHIPMENT OF: 250 ELECTRIC HAND DRILLS C.I.F. LE HAVRE.

* * *

SHIPMENT FROM NEW YORK	PARTIAL SHIPMENTS ARE NOT PERMITTED TRANSSHIPMENTS PERMITTED
TO LE HAVRE	INSURED BY ☐ BUYER ☒ SELLER

SPECIAL CONDITION

SPECIMEN

THE ISSUING BANK ENGAGES WITH YOU THAT ALL DRAFT(S) DRAWN UNDER AND IN COMPLIANCE WITH THE TERMS OF THIS CREDIT WILL BE DULY HONORED ON DUE PRESENTATION AGAINST DELIVERY OF DOCUMENTS AT OUR OFFICE AS SPECIFIED TOGETHER WITH THIS LETTER OF CREDIT ON OR BEFORE THE EXPIRATION DATE WHEN CREDITS HAVE BEEN ADVISED TO US BY CABLE PARTICULARS THEREOF ARE SUBJECT TO THE MAIL CONFIRMATION	INDICATIONS OF ADVISING BANK ☐ THIS LETTER OF CREDIT IS ADVISED TO YOU WITHOUT ENGAGEMENT ON OUR PART ☒ WE CONFIRM THIS CREDIT AND HEREBY UNDERTAKE THAT ALL DRAFT(S) DRAWN AND PRESENTED AS SPECIFIED ABOVE WILL BE DULY HONORED BY US. THE FIRST NATIONAL BANK OF CHICAGO AUTHORISED SIGNATURE

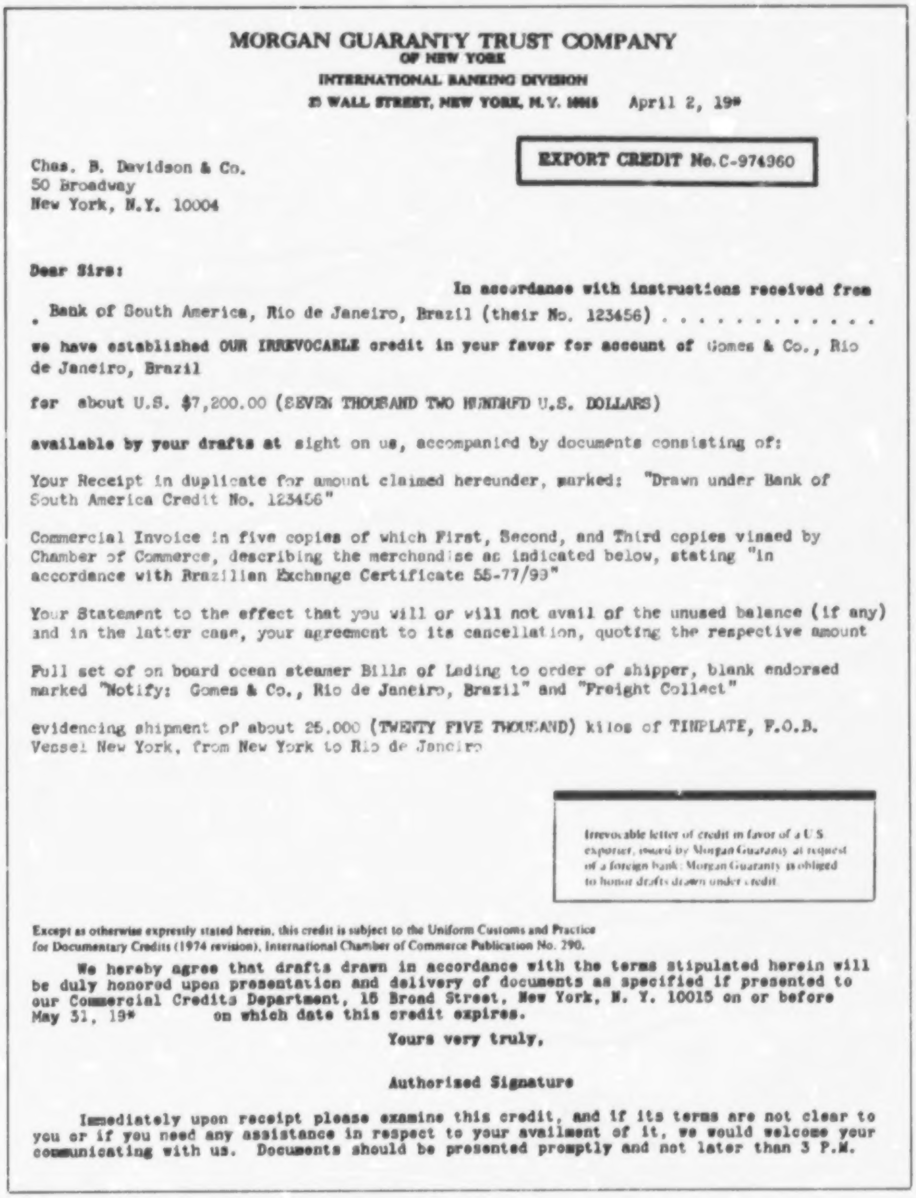
FORM 2640-1 AF (REV. 1 76) ORIGINAL

THIS CREDIT IS SUBJECT TO THE UNIFORM CUSTOMS AND PRACTICE FOR DOCUMENTARY CREDITS (1974 REVISION) INTERNATIONAL CHAMBER OF COMMERCE PUBLICATION 290

Source. First National Bank of Chicago, *Export and Import Procedures* (1975), p. 45.

BEST DOCUMENT AVAILABLE

Exhibit A2



MORGAN GUARANTY TRUST COMPANY
OF NEW YORK
INTERNATIONAL BANKING DIVISION
23 WALL STREET, NEW YORK, N.Y. 10015 April 2, 19*

EXPORT CREDIT No. C-974960

Chas. B. Davidson & Co.
50 Broadway
New York, N.Y. 10004

Dear Sirs:

In accordance with instructions received from Bank of South America, Rio de Janeiro, Brazil (their No. 123456) . . . .

we have established OUR IRREVOCABLE credit in your favor for account of Gomes & Co., Rio de Janeiro, Brazil

for about U.S. $7,200.00 (SEVEN THOUSAND TWO HUNDRED U.S. DOLLARS)

available by your drafts at sight on us, accompanied by documents consisting of:

Your Receipt in duplicate for amount claimed hereunder, marked: "Drawn under Bank of South America Credit No. 123456"

Commercial Invoice in five copies of which First, Second, and Third copies visaed by Chamber of Commerce, describing the merchandise as indicated below, stating "in accordance with Brazilian Exchange Certificate 55-77/99"

Your Statement to the effect that you will or will not avail of the unused balance (if any) and in the latter case, your agreement to its cancellation, quoting the respective amount

Full set of on board ocean steamer Bills of Lading to order of shipper, blank endorsed marked "Notify: Gomes & Co., Rio de Janeiro, Brazil" and "Freight Collect"

evidencing shipment of about 25,000 (TWENTY FIVE THOUSAND) kilos of TINPLATE, F.O.B. Vessel New York, from New York to Rio de Janeiro

Irrevocable letter of credit in favor of a U.S. exporter, issued by Morgan Guaranty at request of a foreign bank; Morgan Guaranty is obliged to honor drafts drawn under credit.

Except as otherwise expressly stated herein, this credit is subject to the Uniform Customs and Practice for Documentary Credits (1974 revision), International Chamber of Commerce Publication No. 290.

We hereby agree that drafts drawn in accordance with the terms stipulated herein will be duly honored upon presentation and delivery of documents as specified if presented to our Commercial Credits Department, 15 Broad Street, New York, N. Y. 10015 on or before May 31, 19*   on which date this credit expires.

Yours very truly,

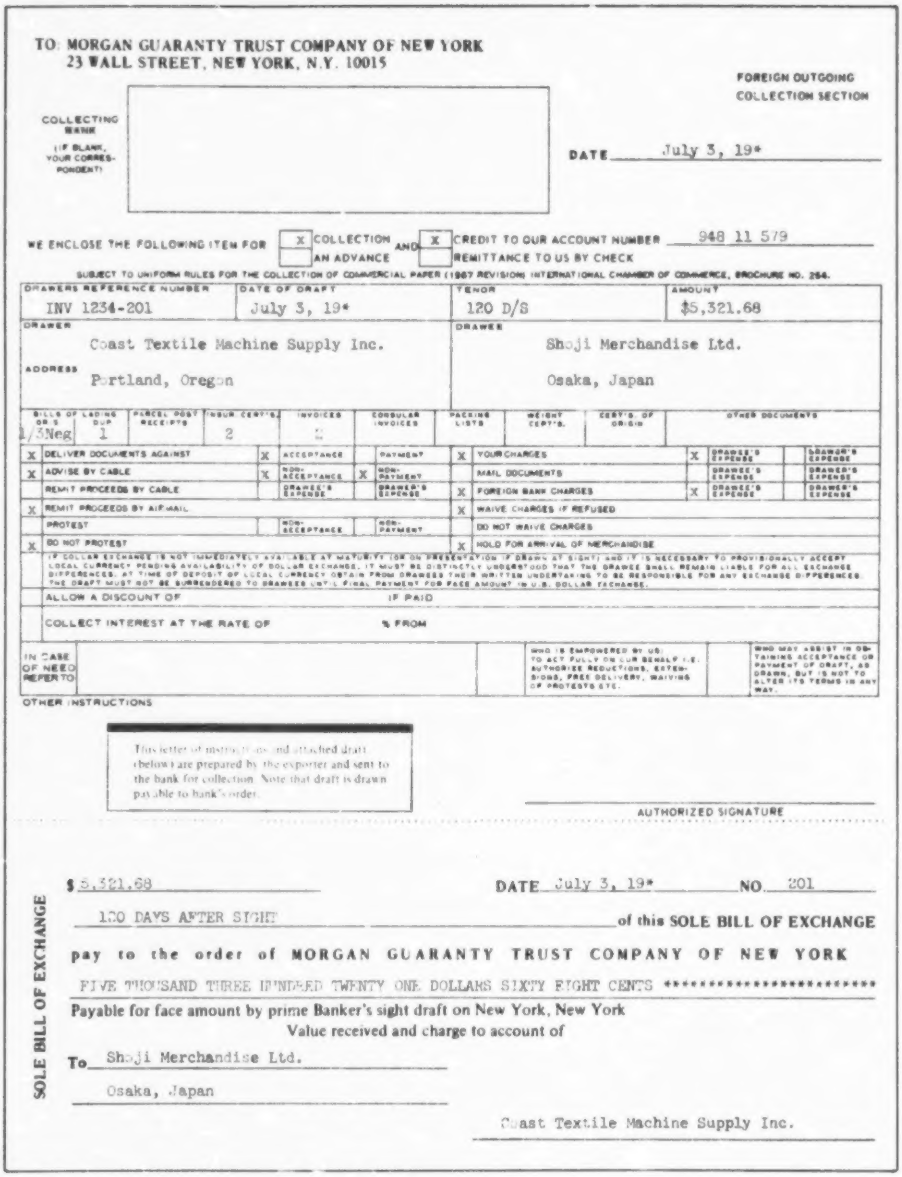
Authorised Signature

Immediately upon receipt please examine this credit, and if its terms are not clear to you or if you need any assistance in respect to your availment of it, we would welcome your communicating with us. Documents should be presented promptly and not later than 3 P.M.

Source. Morgan Guaranty Trust Company, *The Financing of Exports and Imports* (1977), p. 7.

BEST DOCUMENT AVAILABLE

Exhibit A3



TO: MORGAN GUARANTY TRUST COMPANY OF NEW YORK
23 WALL STREET, NEW YORK, N.Y. 10015

FOREIGN OUTGOING
COLLECTION SECTION

COLLECTING BANK (IF BLANK, YOUR CORRESPONDENT)

DATE July 3, 19*

WE ENCLOSE THE FOLLOWING ITEM FOR ☒ COLLECTION ☐ AN ADVANCE AND ☒ CREDIT TO OUR ACCOUNT NUMBER 948 11 579 ☐ REMITTANCE TO US BY CHECK

SUBJECT TO UNIFORM RULES FOR THE COLLECTION OF COMMERCIAL PAPER (1967 REVISION) INTERNATIONAL CHAMBER OF COMMERCE, BROCHURE NO. 254.

DRAWERS REFERENCE NUMBER	DATE OF DRAFT	TENOR	AMOUNT
INV 1234-201	July 3, 19*	120 D/S	$5,321.68

DRAWER: Coast Textile Machine Supply Inc.
ADDRESS: Portland, Oregon

DRAWEE: Shoji Merchandise Ltd.
Osaka, Japan

BILLS OF LADING ORIG'S	BILLS OF LADING DUP	PARCEL POST RECEIPTS	INSUR. CERT'S.	INVOICES	CONSULAR INVOICES	PACKING LISTS	WEIGHT CERT'S.	CERT'S. OF ORIGIN	OTHER DOCUMENTS
1/3Neg	1		2	2					

☒	DELIVER DOCUMENTS AGAINST	☒	ACCEPTANCE	☐	PAYMENT	☒	YOUR CHARGES	☒	DRAWEE'S EXPENSE	☐	DRAWER'S EXPENSE
☒	ADVISE BY CABLE	☒	NON-ACCEPTANCE	☒	NON-PAYMENT	☐	MAIL DOCUMENTS	☐	DRAWEE'S EXPENSE	☐	DRAWER'S EXPENSE
☐	REMIT PROCEEDS BY CABLE	☐	DRAWEE'S EXPENSE	☐	DRAWER'S EXPENSE	☒	FOREIGN BANK CHARGES	☒	DRAWEE'S EXPENSE	☐	DRAWER'S EXPENSE
☒	REMIT PROCEEDS BY AIRMAIL					☒	WAIVE CHARGES IF REFUSED				
☐	PROTEST	☐	NON-ACCEPTANCE	☐	NON-PAYMENT	☐	DO NOT WAIVE CHARGES				
☒	DO NOT PROTEST					☒	HOLD FOR ARRIVAL OF MERCHANDISE				

☐ IF DOLLAR EXCHANGE IS NOT IMMEDIATELY AVAILABLE AT MATURITY (OR ON PRESENTATION IF DRAWN AT SIGHT) AND IT IS NECESSARY TO PROVISIONALLY ACCEPT LOCAL CURRENCY PENDING AVAILABILITY OF DOLLAR EXCHANGE, IT MUST BE DISTINCTLY UNDERSTOOD THAT THE DRAWEE SHALL REMAIN LIABLE FOR ALL EXCHANGE DIFFERENCES. AT TIME OF DEPOSIT OF LOCAL CURRENCY OBTAIN FROM DRAWEES THEIR WRITTEN UNDERTAKING TO BE RESPONSIBLE FOR ANY EXCHANGE DIFFERENCES. THE DRAFT MUST NOT BE SURRENDERED TO DRAWEES UNTIL FINAL PAYMENT FOR FACE AMOUNT IN U.S. DOLLAR EXCHANGE.

☐ ALLOW A DISCOUNT OF IF PAID

☐ COLLECT INTEREST AT THE RATE OF % FROM

IN CASE OF NEED REFER TO		☐	WHO IS EMPOWERED BY US TO ACT FULLY ON OUR BEHALF I.E. AUTHORIZE REDUCTIONS, EXTENSIONS, FREE DELIVERY, WAIVING OF PROTESTS ETC.	☐	WHO MAY ASSIST IN OBTAINING ACCEPTANCE OR PAYMENT OF DRAFT, AS DRAWN, BUT IS NOT TO ALTER ITS TERMS IN ANY WAY.

OTHER INSTRUCTIONS

This letter of instructions and attached draft (below) are prepared by the exporter and sent to the bank for collection. Note that draft is drawn payable to bank's order.

AUTHORIZED SIGNATURE

SOLE BILL OF EXCHANGE

$ 5,321.68 DATE July 3, 19* NO. 201

120 DAYS AFTER SIGHT of this SOLE BILL OF EXCHANGE

pay to the order of MORGAN GUARANTY TRUST COMPANY OF NEW YORK

FIVE THOUSAND THREE HUNDRED TWENTY ONE DOLLARS SIXTY EIGHT CENTS ************************

Payable for face amount by prime Banker's sight draft on New York, New York
Value received and charge to account of

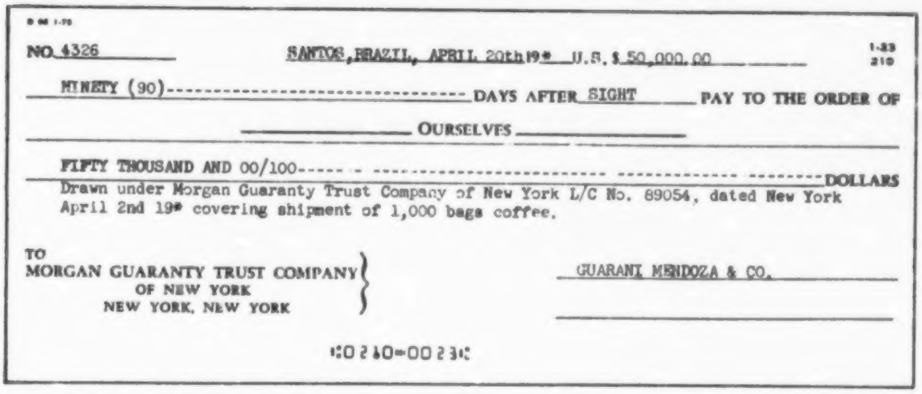
To Shoji Merchandise Ltd.
Osaka, Japan

Coast Textile Machine Supply Inc.

Source. *Financing of Exports and Imports*, p. 15.

BEST DOCUMENT AVAILABLE

Exhibit A4



D 98 1-72

NO. 4326

SANTOS, BRAZIL, APRIL 20th 19* U.S. $ 50,000.00

1-23
210

NINETY (90)------------------------------- DAYS AFTER SIGHT PAY TO THE ORDER OF

OURSELVES

FIFTY THOUSAND AND 00/100-- DOLLARS

Drawn under Morgan Guaranty Trust Company of New York L/C No. 89054, dated New York April 2nd 19* covering shipment of 1,000 bags coffee.

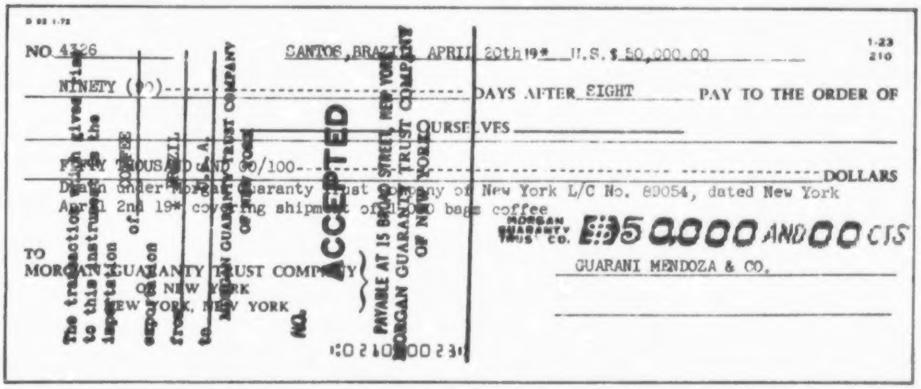
TO
MORGAN GUARANTY TRUST COMPANY
OF NEW YORK
NEW YORK, NEW YORK

GUARANI MENDOZA & CO.

⑆0210⁃0023⑆

Above: time draft drawn on Morgan Guaranty by foreign exporter under letter of credit issued by Morgan Guaranty at request of U.S. importer.

Below: the same draft, stamped "Accepted" by Morgan Guaranty, becomes a banker's acceptance and a negotiable short-term investment instrument. At maturity Morgan Guaranty pays face amount to drawer-payee or to subsequent owner to whom acceptance has been properly endorsed.



D 98 1-72

NO. 4326

SANTOS, BRAZIL, APRIL 20th 19* U.S. $ 50,000.00

1-23
210

NINETY (90)------------------------------- DAYS AFTER SIGHT PAY TO THE ORDER OF

OURSELVES

FIFTY THOUSAND AND 00/100-- DOLLARS

Drawn under Morgan Guaranty Trust Company of New York L/C No. 89054, dated New York April 2nd 19* covering shipment of 1,000 bags coffee

The transaction which gives rise to this instrument is the
importation
of COFFEE
exportation
from BRAZIL
to U.S.A.
MORGAN GUARANTY TRUST COMPANY
OF NEW YORK
NO.

ACCEPTED

PAYABLE AT 15 BROAD STREET, NEW YORK
MORGAN GUARANTY TRUST COMPANY
OF NEW YORK

MORGAN GUARANTY TRUST CO. $50,000 AND 00 CTS

TO
MORGAN GUARANTY TRUST COMPANY
OF NEW YORK
NEW YORK, NEW YORK

GUARANI MENDOZA & CO.

⑆0210⁃0023⑆

Source. *Financing of Exports and Imports*, pp. 15, 25.

BEST DOCUMENT AVAILABLE

Appendix B
AN ANALYSIS OF FAILED BANKS

This appendix presents some information on banks that failed between 1961 and 1977 and that had a ratio of acceptances to deposits of less than 0.1.

Sharpstown State Bank (nonmember), Houston, Texas, had an acceptance-deposit ratio equal to 1/10 of 1 percent. Its control group (banks with \$50 million to \$100 million in assets in District 11) had a mean ratio of 0.49 percent and $\sigma = 0.188$ percent. Among the control group banks 12.2 percent had an acceptance-deposit ratio higher than Sharpstown's. Its loan-deposit ratio was 53 percent compared with 56 percent for its control group. In comparison with similar banks, neither of these ratios is an indicator of problems for Sharpstown. These ratios, however, say nothing about the quality of loans and acceptances.

Chatham Bank of Chicago (nonmember), Chicago, Illinois, had an acceptance-deposit ratio of 1.0 percent. Its control group (banks in District 7 with \$10 million to \$50 million in assets) had a mean ratio of only 0.14 percent with $\sigma = 0.107$ percent; only 0.4 percent of the control-group banks had a ratio greater than Chatham's. Chatham had a loan-deposit ratio of 68 percent in 1963; only 2.2 percent of its control group had one this high. Chatham clearly overextended itself. Its acceptances were used as a means of granting further credit.

U.S. National Bank of San Diego (national), San Diego, California, had an acceptance-deposit ratio of 1.8 percent compared with 0.94 percent for its control group (11 banks in District 12 with assets between \$1 billion and \$5 billion). The control group did have a standard deviation of 0.93 percent. Of these banks 18.2 percent (2 of the 11) had a ratio higher than USNB's. That bank's loan-deposit ratio was 62 percent, compared with 74 percent for its control group. USNB therefore did not appear to have an extraordinary composition of assets and liabilities. The problem lay in the poor quality of these loans and acceptances.

American Bank and Trust (nonmember), Orangeburg, South Carolina, had an acceptance-deposit ratio of 1.7 percent compared with 0.091 percent for its control group (banks in District 5 with assets of \$100 million to \$500 million). The control group's σ was 0.27 percent. No bank in this group had a higher acceptance-deposit ratio than the failed bank's. The loan-deposit ratio was extraordinary (76 percent against 70 percent for the control group). American Bank and Trust apparently used acceptances to complement its loan portfolio, perhaps in the effort to cope with the very tight money conditions around its date of failure (September 20, 1974). Both the bank and its control group had a ratio of loans plus customer liabilities to the bank to deposits plus acceptances outstanding of 76 percent. Thus acceptances do not seem to have been the problem in the bank's failure.

Franklin National Bank (national), New York, New York, had a ratio of acceptances to deposits of 3.1 percent compared with 0.48 percent for its control group (37 banks in District 2 with assets of $1 billion to $5 billion with a σ = 0.94 percent). Of the control group, two banks (5.4 percent) had a ratio greater than Franklin's. Before its failure Franklin had a ratio of loans to deposits of 126.5 percent (both these ratios were biased upward by the runoff of deposits at Franklin before the failure). Although Franklin did not fail because of its acceptance financing, it clearly used this form of financing to expand its earning assets.

State Bank of Clearing (state member), Chicago, Illinois, had an acceptance-deposit ratio of 4.5 percent compared with 0.165 percent for its control group (banks in District 7 with assets of $50 million to $100 million). The control group had a σ = 1.49 percent. Only 0.8 percent of all banks in the control group (2 out of 258) had a ratio greater than State Bank's. This bank also had a loan-deposit ratio of 92 percent (exceeded by only 0.4 percent of all banks in its control group). Although State Bank did not fail because of its use of acceptances (its ratio of loans plus customer liabilities to deposits plus acceptances was also 92 percent), it apparently used acceptances more than other banks in its size class. For this bank they were undoubtedly a means of meeting customer requests without draining reserves. These acceptances were probably purchased by other customers of the bank.

American Bank and Trust Company (state member), New York, New York, had an acceptance-deposit ratio of 1.3 percent, compared with 1.25 percent with σ = 5.93 percent for its control group (banks in District 2 with assets of $100 million to $500 million). The bank had a loan-deposit ratio of 78 percent, which was exceeded by those of 16-1/2 percent of all its control banks. Nothing extraordinary about the bank's use of acceptance financing seems to have contributed to its failure.

Appendix C
THE HISTORY OF TENOR

To understand why the tenor requirement for the eligibility of bankers acceptances was imposed, one must understand the problems facing bank reformers at the time they drafted it, in 1913. Between May 1907 and June 1908 there was a brief, but extremely severe, business contraction involving sharp drops in output and employment. The first signs of a financial crisis occurred during the week of October 14, 1907, when five banks that were members of the New York Clearing House, and three banks that were not, required assistance from the New York Clearing House against deposit runoffs. These banks were controlled through stock ownership on margin by a few men, who used them to obtain loans for speculation in the stocks of copper-mining companies. When the prices of these stocks declined sharply, depositors became alarmed and started runs. On October 21, Knickerbocker Trust, the third largest trust company in New York, but not a member of the Clearing House, began to experience unfavorable clearing house balances as a result of transactions with the banks that were in trouble. A run on Knickerbocker the next day forced it to suspend operations. On October 23, a run began on the second-largest trust company in the city, and the following day a run began on still another trust company. Although New York financiers (including J. P. Morgan) were able to control the panic in that city, alarm had already spread throughout the country. Experience had taught country banks the difficulty of obtaining currency from their city correspondents in times of crisis. Banks throughout the country generally held part of their required reserves and their surplus funds with banks in reserve and central reserve cities, particularly New York. The New York City banks paid interest on bankers' balances and expanded their asset portfolio close to the limit permitted by their reserves. Thus they were unlikely to be able to meet calls from their correspondents without a disastrous contraction of their own loans. They therefore restricted the convertibility of deposits into currency and started issuing clearing house certificates. Currency went to a premium over deposits and was "hoarded." As a result of this "Panic of 1907," the National Monetary Commission (NMC) was created for the purpose of amending the national banking laws to prevent a recurrence.[36]

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[36] 35 Stat. 552, sec. 17 (P.L. 60-169, May 30, 1908).

The principal objective of the NMC was to create an "elastic currency." The Panic of 1907 demonstrated that the system had no effective means of converting deposits to currency: Because the supply of high-powered money was fairly fixed in the short term, any attempt by the public to switch from deposits to currency initially drained bank reserves and thus forced a contraction in liabilities and assets by some multiple of reserves. Short-period "elasticity" in currency was therefore desirable in order to prevent an undesired "elasticity" change in the total money stock.37/ The NMC believed that this elasticity could be provided by a central association (which they referred to as the National Reserve Association), which would furnish its own obligations to the public by rediscounting certain kinds of bank assets. It was this rediscounting mechanism of the central association that was seen as the key to avoiding panics.

The NMC sought to remedy the defects of the banking system by a comprehensive reorganization of credit and a thorough reconstruction of the banking system. The commission submitted its recommendations to the Senate in the form of a bill that became known as the Aldrich Plan, after the former Senator from Rhode Island, Nelson W. Aldrich, who chaired the commission. The commission, which was created under the Republican administration of Theodore Roosevelt, completed its report in 1912, when the Democratic administration of Woodrow Wilson had come to power. Banking reform became enmeshed in politics. The Democratic platform in the 1912 election opposed the Aldrich Plan. William Jennings Bryan, who was responsible for drawing up the plank, argued that the government of the United States (as opposed to the National Reserve Association) was the only body with the power to issue legal tender.38/ The resulting Glass-Owen bill sponsored by two Democrats, which became the Federal Reserve Act, was very similar in general structure to the reforms recommended by the NMC, and identical in many details with it.

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37. This interpretation of the valid sense of elasticity, as well as an economic description of the period, can be found in Milton Friedman and Anna Jacobson Schwartz, A Monetary History of the United States, 1867-1960 (Princeton University Press, 1963).

38. For an account of the political history of the Federal Reserve Act, see J. Laurence Laughlin, The Federal Reserve Act: Its Origin and Problems (Macmillan, 1933).

The Aldrich Plan and the resulting Federal Reserve Act restricted the business of banking to that which was based on commercial paper. This restriction was a combined result of the ubiquitous "real bills" doctrine and the fear of overexpanding the economy through the discount system.[39]

The term "commercial paper" as used by the NMC (and in the Federal Reserve Act) means paper that represents movements of goods from producers to consumers, the transformation of raw materials into finished products.

> It should be contrasted with investment paper, which represents the capitalization of new enterprises and the enlargement of old ones, the purchase of land, water powers, irrigation projects, the construction of buildings, the opening up of mines, and the building of railroads, lighting and heating plants ...
>
> Inflation results when investment loans exceed current savings, because when this happens, banks assume demand obligations, that is, issue currency against obligations which will not be paid for years, and the currency consequently piles up, accumulates, instead of being returned and redeemed. When, however, they invest in commercial paper, they simply act as intermediaries in an exchange of goods against goods, the currency which they create being returned to them for cancellation by the completion of the process of exchange in which it originates.[40]

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39. The real-bills doctrine held that only discounting advances for short-term commercial purposes would provide the currency with the desired elasticity and would at all times leave banks in a liquid condition.

40. J. Laurence Laughlin, ed., Banking Reform (Chicago: National Citizens' League for the Promotion of a Sound Banking System, 1912), p. 264. Laughlin was the founder of the prestigious Journal of Political Economy and was organizer and chairman of the Department of Political Economy of the University of Chicago. As chairman of the Executive Committee of the National Citizens' League for the Promotion of a Sound Banking System, Laughlin kept close ties with all the parties involved in bank reform and contributed significantly to the Federal Reserve Act. H. P. Willis, himself a former student of Laughlin's, was the chief economic consultant to Representative Carter Glass, chairman of the House Banking Subcommittee. Willis later became the first Secretary to the Federal Reserve Board.

This statement by J. Laurence Laughlin illustrates how prevalent the real-bills doctrine was in 1912. The restriction of the discount function of the central association (or Federal Reserve Banks) to commercial paper was an implicit acceptance of the real-bills doctrine as a means of combating inflation.

At the turn of the century overexpansion by banks was synonymous with inflation. Prices in the United States rose between 40 and 50 percent from 1897 to 1914.41/ The fear of inflation led the NMC to incorporate the real-bills doctrine into its bank reform plan. However, since most commercial bank assets were in the form of commercial paper eligible for discount, and members could always rediscount their eligible paper with the central association, a further check against inflation was included in the Aldrich Plan by the requirement of a gold reserve against notes and deposits.42/ In the Glass-Owen bill this requirement called for 33-1/3 percent of notes outstanding to be kept in the form of "lawful money." The inclusion of this reserve requirement was a means of putting the U.S. economy on the gold standard and of limiting the credit-expansion potential of the banks. In its report, the National Monetary Commission stated:

> For obvious reasons the National Reserve Association is required to keep its assets in liquid form and its rediscounts, discounts and investments are confined to short-term paper or Government securities.43/

The NMC never elaborated on these "obvious" reasons for limiting rediscount operations to short-term paper, but there are two

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41. The proximate cause was the tremendous outpouring of gold after 1890 from discoveries in South Africa, Alaska, and Colorado and from improved methods of mining and refining. The total stock of money in the United States rose slightly more than the gold stock (7-1/2 percent per year). See Friedman and Schwartz, A Monetary History.

42. In 1911, 56.8 percent of all loans made by national banks were commercial paper of maturity less than 90 days (this number comes from Comptroller of the Currency, Annual Report, 1913, Government Printing Office, 1914). In 1978, approximately 35 percent of bank loans were less than 90 days.

43. Report of the National Monetary Commission, S. Docs. 243, 784, 405, 62 Cong. 2 Sess. (GPO, 1912), p. 16.

likely reasons for this restriction. The first was a feeling by the reformers that they should promote a sound banking philosophy only by encouraging banks to engage in short-term, self-liquidating transactions. At the time, national banks were prohibited from issuing time deposits by extremely high reserve requirements vis-á-vis state-chartered trust companies. Thus the demand nature of their liabilities required them to maintain portfolios whose assets were fluid and of very short term.44/ Commenting in 1913 on sound banking practice, Frank A. Vanderlip, the President of National City Bank of New York,45/ stated in an address before the Academy of Political Science:

> Not over twenty-five percent, at most, of the paper in a bank's portfolio should be one hundred and twenty-day paper. I believe bankers almost universally recognize that it is only loans of a self-liquidating character that may properly go into the portfolio.46/

The "short term" restriction was an attempt to force banks to match the maturity structure of their asset portfolios with the demand nature of their liabilities.

The second reason for limiting rediscounting to short-term paper was to guarantee that both the elasticity of the currency and the gold standard could be maintained. The longer the term to maturity of the eligible paper, the greater the credit expansion of the banking system and the less the ability of the central association to provide reserves to banks within the confines

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44. In his book, H. Parker Willis describes national banks as "'commercial banks.' That is to say, their operations are limited by law to those classes of transactions that are obviously short-term in character. The restrictions placed upon the conditions under which the national banks may lend and the kinds of security which they may accept, if rigidly observed, confine the banks to the commercial business of lending to persons who have live security and expect to pay at the end of thirty, sixty, ninety, or one hundred and twenty days." See American Banking (Chicago: LaSalle Extension University, 1916), p. 12.

45. The National City Bank of New York was the precursor of today's Citibank.

46. "Banking and Currency in the United States," Proceedings of the Academy of Political Science, vol. 4 (October 1913), p. 145.

of the gold standard. To illustrate, suppose $1 million per day of eligible paper is presented to the central association for rediscount; and the term to maturity of this paper at the time of discount is exactly 30 days. At the end of 30 days the central association will have created $30 million of its own notes. Every day thereafter that it purchases $1 million of commercial paper, it will receive $1 million from maturing paper that it previously purchased. Thus the maximum notes outstanding against the central association will be $30 million. Now, suppose 180-day paper is eligible for discount, and the central association now purchases commercial paper of exactly 180 days to maturity at its time of discount. In this situation the bank will have notes outstanding (after 180 days) of $180 million. The incremental $150 million of notes lead to overexpansion and the inflation that everyone feared.

Referring to bankers acceptances, the National Monetary Commission said:

> The unimportant part which our banks and bankers take in the financing of our foreign trade is disgraceful to a progressive nation. We export of domestic products about two thousand million dollars annually, and our annual imports amount approximately to fifteen hundred million dollars. Very much the larger portion of this international trade is financed by and pays tribute to foreign bankers.47/

Before the Federal Reserve Act, national banks could not legally accept drafts. In Europe, however, foreign banks could create bankers acceptances, and there were large discount centers in London, Paris, Amsterdam, Berlin, and other cities. Because the U.S. banks could not finance imports through the acceptance of time bills, American importers were dependent to a large extent upon London. As a result American importers paid a considerable annual tribute to London in the form of acceptance commissions. This practice increased the importance of London, at the expense of New York, as a financial center. The Aldrich Plan and the Glass-Owen bill supported the right of banks to accept bills of exchange, for these reasons:

1. It would create a discount market in the United States, which, with two-name paper, would offer an ideal investment instrument for bank surplus funds

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47. Report of the National Monetary Commission, p. 28.

instead of investments in "speculative" New York City call loans.

2. It would hasten the development of New York as a world financial center and would keep the commissions on acceptance financing within the United States.

3. Acceptances were consistent with the real-bills doctrine in that they were derived from a commercial trade transaction of a self-liquidating type.

It was obvious to the bank reformers that an acceptance of a time draft was a form of a loan, differing from promissory notes only in the legal forms adopted for protecting the bank against the borrower. The prevailing view, then, was that the same precautions needed to be taken against overexpansion in the case of acceptances as in the case of other paper. This explains why bankers acceptances that were eligible for discount were required to be of short term. Both the report of the National Monetary Commission and the Federal Reserve Act placed a limit on the maximum term to maturity that federally regulated banks could legally accept. The former stated as follows:

> SEC. 31. National Banks are hereby authorized to accept drafts or bills of exchange drawn upon them, having not more than four months to run, properly secured, and arising out of commercial transactions as hereinbefore defined. The amount of such acceptances outstanding shall not exceed one-half the capital and surplus of the accepting bank, and shall be subject to the restrictions of section fifty-two hundred of the Revised Statutes.

This statement by the NMC had the intent of legalizing the acceptance powers of national banks while simultaneously prohibiting them from using this power on any time drafts in excess of four months. The NMC also suggested (in section 27) that the National Reserve Association _not_ rediscount _any_ commercial paper with a maturity in excess of four months. This limit appears to be the maturity horizon that the Commission judged to be both consistent with the real-bills doctrine and noninflationary.[48] In the Federal Reserve Act, however, the four-month limit on eligible paper was dropped in favor of wording that would leave it up to the Federal Reserve Board to decide what maturity separated "commercial" from "investment" paper.[49] The Federal Reserve Act did, however, set a maximum of six months (instead of four) for notes, drafts, and bills drawn or issued for agricultural purposes or based on livestock, while simultaneously changing the eligibility requirement on acceptances to the follow ing:

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[48] Four months was also consistent with the legal lending limits of national banks and with the limits of sound banking practices expressed in Vanderlip's speech at the Academy of Political Science. See "Banking and Currency in the United States," p. 145.

> Any member bank may accept drafts or bills of exchange drawn upon it and growing out of transactions involving the importation or exportation of goods having not more than six months sight to run; but no bank shall accept such bills to an amount equal at any time in the aggregate to more than one-half its paid-up capital stock and surplus.[50]

From a review of the history surrounding the Federal Reserve Act, it appears that the bank reformers were much concerned about the impact of Federal Reserve rediscounts of commercial paper and bankers acceptances on the rate of inflation in the United States. These reformers were trying to develop an independent system to conduct the nation's monetary policy through a rediscount mechanism. To have this monetary policy be consistent with the gold standard, limits were placed upon the maximum amount of credit expansion in the economy. The tenor requirement on bankers acceptances was one of these limits.

Banking and monetary policy have changed substantially since 1913. The gold standard, which was basic to the framing of the act, never played the role envisioned by the bank reformers, and it was suspended when World War I began. Reestablished later, it lasted only briefly because countries were unwilling to subordinate their domestic economies to its stringent requirements. The real-bills doctrine fared little better. Once the United States entered the war, loans on government securities began to rival commercial paper as collateral for Reserve Bank discounts, and monetary policy shifted from rediscounting to open market operations. The founders of the Federal Reserve System were successful in creating a financial center in New York to rival the European centers and in establishing a broad market in bankers acceptances. They were incorrect, however, in their view that monetary policy would be conducted through the rediscounting of commercial paper. In 1914 all Federal Reserve Banks discounted a total of $9.9 million of eligible commercial paper. In that same year holdings by these banks of U.S. government securities totaled only $205,000. By 1924 Federal Reserve Bank holdings of U.S. government obligations ($540.16 million) exceeded its holdings of discounted bills ($320.13 million) for the first time. By the end of World War II (in 1945) total discounts and advances made by Federal Reserve Banks were only $249 million compared with holdings of U.S. government securities of $24.3 billion. Finally, data indicate that in November 1978, the Federal Reserve Banks held no rediscounted commercial paper (but made loans to member banks in the amount of $813 million) and held $113.31 billion in U.S. government securities. Clearly, the bank reformers in 1913 could not have foreseen these developments. As these numbers make plain, the Federal Reserve now conducts its monetary policy principally through open market operations in U.S. government securities and not through the rediscounting mechanism.51/

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[49] 12 U.S.C. 343 (1913).

[50] 12 U.S.C. 372 (1913).

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51. The fear of overexpansion in the U.S. economy through the rediscount operations of the Federal Reserve Banks was effectively eliminated in 1920. At that time the country was experiencing inflation and the Board was under some pressure to do something. In a letter to the President of the Senate on May 25, 1920, Governor W. P. Harding said, "... the Board ... has recognized for many months past that the expansion of bank credits in this country was proceeding at a rate not warranted by the production and consumption of goods. It has repeatedly admonished the Federal Reserve Banks that influence should be exerted upon the member banks to induce them to avoid undue expansion of loans and to keep their volume of outstanding credits within moderate bounds." It was at this time that the Federal Reserve Board ruled rediscounting of eligible paper was at the discretion of, and not an obligation of, a Federal Reserve Bank.

An additional noteworthy item is the manner in which the Federal Reserve Act treats domestic bankers acceptances. Section 31 of the MNC's report (which appears above) makes no distinction between acceptances employed for domestic and international trade; yet, the Federal Reserve Act treats them differently. In a speech at the Academy of Political Science in October 1913, Senator Aldrich criticized this feature of the Glass-Owen Act:

> It is difficult to understand why national banks, which are authorized by the House bill to accept drafts growing out of transactions involving importation or exportation of goods, are not permitted to accept domestic drafts of the same character.

The reason for limiting bankers acceptances to drafts based on the import or export of goods was to prevent banks of questionable solvency from overexpanding their credit by issuing claims against their name when they had no reserves.52/ These fears were alleviated by the aggregate limits of individual bank acceptance volumes, and by the interpretation of the Board in 1921 that rediscounting of eligible paper was at the discretion of the Board and was not automatic. In modern times, overexpansion would be restricted through the activities of the secondary market in bankers acceptances. A bank that overexpanded would lose its prime status. Dealers would no longer be willing to keep an inventory of this paper, and this bank would effectively be forced out of the acceptance business.

Although the Federal Reserve Act did not allow national banks to accept domestic time drafts, a number of states (notably New York) did allow state banks to accept domestic bills. This led the Congress on September 7, 1916, to pass an amendment that allowed national banks to accept domestic drafts. The bill (H.R. 13391) was worded thus:

> Any member bank may accept drafts or bills of exchange drawn upon it having not more than six months' sight to

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52. Willis states that the limitation is imposed "to avoid an undue development of the acceptance business on the part of banks which might not be of the highest degree of solvency, or might have embarked upon an acceptance business to too great an extent in proportion to their resources." See American Banking, p. 39.

> run, exclusive of days of grace, which grow out of transactions involving the importation of goods; or which grow out of transactions involving the domestic shipment of goods provided shipping documents conveying or securing title are attached at the time of acceptance; or which are secured at the time of acceptance by a warehouse receipt or other such document conveying or securing title covering readily marketable staples.[53]

The wording of the amendment was somewhat ambiguous and required the Board to render an opinion on the phrase "conveying or securing" title. The interpretation of the general counsel of the Board was that title could not be conveyed from buyer to seller but must be conveyed to the member bank. Whether title should be conveyed to the buyer or to the accepting bank, or left to the discretion of the bank, was not an issue. It was never brought up in the congressional hearings on the bills. The only statement about the phrase in question was made by Governor Hamil. He said that it

> simply gives the power to a national bank to accept in domestic transactions, provided the acceptance is secured by a bill of lading or warehouse receipt.... This is simply to give that right to national banks, being conditioned, of course, on its being tied down to the security of the documents representing the transaction.

The effect of this interpretation is to treat domestic and foreign bankers acceptances differently in terms of their eligibility for discount. This interpretation has hampered the use of acceptance financing in the United States because of the inconveniences involved in title changes in the shipments of goods.

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[53] 12 U.S.C. 372 (1916).